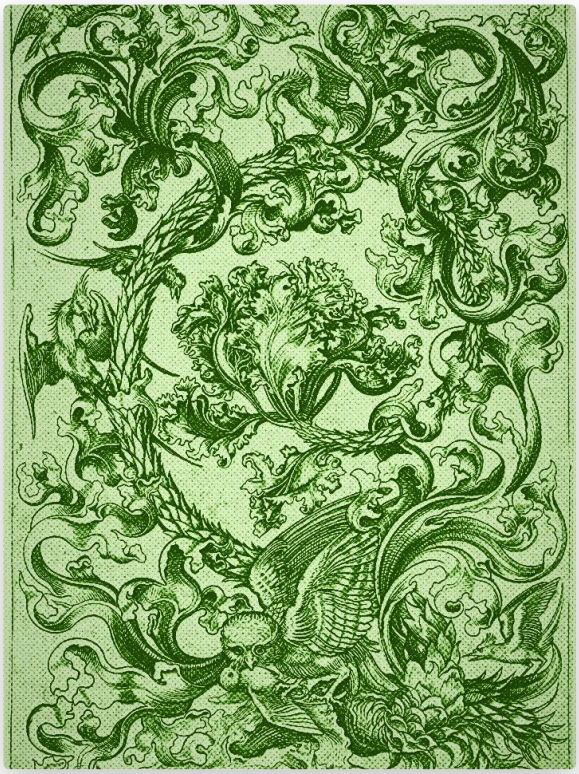
FORM S-1 · REGISTRATION STATEMENT

Duolingo Inc

IPO priced 2021-07-28 · $102.00 a share · DUOL



From S1 Directory · www.s1directory.com/s1/duolingo-inc/ · Source:
https://www.sec.gov/Archives/edgar/data/1562088/000162828021013065/duolingos-1.htm

As filed with the Securities and Exchange Commission on June 28, 2021.

REGISTRATION NO. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Duolingo, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	7372	45-3055872
(State or Other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

5900 PENN AVENUE

PITTSBURGH, PENNSYLVANIA 15206

(412) 567-6602

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

LUIS VON AHN

CHIEF EXECUTIVE OFFICER

Duolingo, Inc.

5900 PENN AVENUE

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Approximate date of commencement of proposed sale to the public:

As soon as practicable after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act, check the following box: ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☐
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE(2)
Class A common stock, $0.0001 par value per share	$100,000,000	$10,910

(1)Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended. Includes the aggregate offering price of additional shares that the underwriters have the option to purchase.

(2)Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. Neither we nor the selling stockholders may sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated , 2021 Duolingo, Inc.

SHARES OF CLASS A COMMON STOCK

This is an initial public offering of shares of Class A common stock of Duolingo, Inc. We are offering shares of our Class A common stock, and the selling stockholders identified in this prospectus are offering shares of Class A common stock. We will not receive any proceeds from the sale of shares of Class A common stock by the selling stockholders.

Prior to this offering, there has been no public market for our Class A common stock. It is currently estimated that the initial public offering price will be between $ and $ per share. We have applied to list our Class A common stock on the Nasdaq Global Select Market under the symbol “DUOL.”

We are an “emerging growth company” as defined under the federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and may elect to do so in future filings.

We have two classes of common stock, Class A and Class B common stock (collectively, our common stock). The rights of holders of Class A and Class B common stock are identical, except voting and conversion rights. Each share of Class A common stock is entitled to one vote. Each share of Class B common stock is entitled to 20 votes and is convertible at any time into one share of Class A common stock. Outstanding shares of Class B common stock will represent approximately % of the voting power of our outstanding capital stock immediately following this offering, with our directors, executive officers, and 5% stockholders and their respective affiliates representing approximately % of the voting power.

Investing in our Class A common stock involves a high degree of risk. See the section titled “Risk Factors” beginning on page 20 to read about factors you should consider before buying shares of our Class A common stock.

	Per Share	Total
Initial public offering price		$$
Underwriting discounts and commissions(1)		$$
Proceeds, before expenses, to us		$$
Proceeds, before expenses, to the selling stockholders		$$

_____

(1)See the section titled “Underwriting” for a description of the compensation payable to the underwriters.

To the extent that the underwriters sell more than shares of Class A common stock, the underwriters have the option to purchase up to an additional shares from us at the initial public offering price less the underwriting discount.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved these securities, or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of Class A common stock to purchasers on , 2021.

Goldman Sachs & Co. LLC			Allen & Company LLC
BofA Securities	Barclays	Evercore ISI	William Blair
KeyBanc Capital Markets	JMP Securities, LLC	Piper Sandler	Raymond James

Prospectus dated , 2021

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You should rely only on the information contained in this prospectus or contained in any free writing prospectus filed with the Securities and Exchange Commission (the SEC). Neither we, the selling stockholders, nor any of the underwriters have authorized anyone to provide any information or make any representations other than those contained in this prospectus or in any free writing prospectus we have prepared. Neither we, the selling stockholders, nor the underwriters take responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of Class A common stock offered by this prospectus, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of the Class A common stock. Our business, results of operations, financial condition, and prospects may have changed since such date.

For investors outside of the United States: Neither we, the selling stockholders, nor any of the underwriters have done anything that would permit this offering or possession or distribution of this prospectus or any free writing prospectus we may provide to you in connection with this offering in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside of the United States who come into possession of this prospectus and any free writing prospectus must inform themselves about and observe any restrictions relating to this offering and the distribution of this prospectus outside of the United States.

Prospectus Summary

This summary highlights selected information that is presented in greater detail elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our Class A common stock. You should read this entire prospectus carefully, including the sections titled "Risk Factors," "Special Note Regarding Forward-Looking Statements," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," and our consolidated financial statements and related notes included elsewhere in this prospectus, before making an investment decision. Unless the context otherwise requires, the terms "Duolingo," the "company," "we," "us," and "our" in this prospectus refer to Duolingo, Inc. and its consolidated subsidiaries, and the phrase "our learners" refers to the users of our language learning app.

Our Mission

Our Mission is to develop the best education in the world and make it universally available.

Although education can open the door to economic opportunity, it is also among the principal sources of inequality: the privileged can get the best education in the world, while those with fewer resources, especially in developing countries, may not be able to get even basic schooling. That is why we started Duolingo. We believe that everyone, regardless of how wealthy they are, should have access to high quality education. And for the first time in history, the technology necessary to enable this is in the hands of billions of people, in the form of a smartphone. At Duolingo, we build products native to the smartphone—bite-sized, on-demand and engaging—to make learning accessible and effective, opening doors for everyone alike.

Who We Are

Duolingo is a technology company founded by two engineers, Luis von Ahn and Severin Hacker. Luis and Severin met at Carnegie Mellon University, where Luis was a professor in the Computer Science Department and Severin was his Ph.D. student. Luis, a MacArthur Fellow, grew up in Guatemala and witnessed firsthand the tremendous impact that access to high quality education can have on people's lives. Luis and Severin bonded over the dream of building an intelligent learning system informed by massive amounts of user engagement data that could deliver superior learning outcomes.

Our team of over 400 passionate employees, including more than 170 engineers, aims to build the most sophisticated education platform in the world. We believe that by using modern technology, the very best engineering talent, and a mission-driven approach, we can create better learning experiences and meaningful improvements in efficacy. Our products are powered by sophisticated data analytics and artificial intelligence that make it easier for learners to stay motivated, master new material, and achieve their learning goals.

Our Business

Duolingo is the leading mobile learning platform globally. With over 500 million downloads, our flagship app has organically become the world's most popular way to learn languages and the top-grossing app in the Education category on both Google Play and the Apple App Store. For many, Duolingo has become synonymous with language learning: for example, on Google, people search the term "Duolingo" nine times more often than "learn Spanish." We are particularly proud that our learners come from the entire socioeconomic spectrum, ranging from billionaires and celebrities to recently resettled refugees, a rare instance in which more money does not imply better access to a high quality educational platform.

We started with a focus on teaching languages because of the profound impact learning a new language can have on people's lives, as well as the large market opportunity. According to HolonIQ, 1.8 billion people across the world are learning a new language, and in 2019, consumer spend on both online and offline language learning represented a $61 billion market. Driving much of the demand for language learning is the reality that English can unlock tremendous economic opportunity. And the power of language learning is not limited to economic advancement. Learning another language can unlock new experiences and deep human connections, ranging from navigating a first trip to another country, to communicating with family members of an older generation.

Duolingo offers courses in 40 languages to approximately 40 million monthly active users. To put our scale in context, there are more people in the United States learning languages on Duolingo than there are foreign language learners in all US high schools combined, and there are more people learning certain languages on Duolingo, like Irish and Hawaiian, than there are native speakers of those languages worldwide.

Duolingo is the learning product built for the mobile generation: bite-sized, on-demand and fun. We believe that the hardest part of learning something new is staying motivated, so we build gamification features into our platform to motivate our learners, and we run thousands of A/B tests to optimize each feature for maximum engagement. Our obsession with user experience has yielded affinity and loyalty in our learners, which in turn has helped us cultivate millions of brand advocates who tell their friends and families about our products. Indeed, our brand has become part of pop culture, appearing in internet memes and sketches on late night comedy shows. All of this has allowed us to grow our business organically, primarily relying on word-of-mouth virality rather than paid user acquisition.

Our millions of learners complete over 500 million exercises every day, creating what we believe to be the world's largest learning dataset. This data powers the high volume A/B testing and novel artificial intelligence (AI) that we use to continually improve how well we teach. According to an internal study, people who complete five "Units" of Duolingo, or roughly half of one of our courses, learn as much as students taking four university semesters of language education—and they do so in half the time.

We intentionally do not put our learning content behind a paywall. Anyone can download the Duolingo app, use it for as long as they like, and complete as many of our courses as they choose, all without paying anything. Learners who use Duolingo for free see an ad at the end of each lesson, whereas learners who purchase Duolingo Plus, our premium subscription, enjoy an ad-free experience and access to additional features. As of March 31, 2021, approximately 5% of our monthly active users were paid subscribers of Duolingo Plus. Our paid subscriber penetration has increased steadily since we launched Duolingo Plus in 2017 and, combined with our user growth, has led to our revenue more than doubling every year since. We have a strong future roadmap of feature improvements and optimizations, and believe we are in the early stages of increasing our paid subscriber penetration.

Our freemium business model is core to our success because it enables significant user scale. Our growth and competitive differentiation have been driven by two mutually-reinforcing flywheels: our learning flywheel and our investment flywheel.

•Learning flywheel: The greater the scale of our learner base, the more we can use insights from data analytics to improve both engagement and efficacy. The more engaging our products are, and the more effectively we teach, the more our learners tell their friends about Duolingo, and the more we continue to grow our learner base.

•Investment flywheel: Our learner scale and word-of-mouth growth allow us to focus our capital investments on product innovation and data analytics, as opposed to brand or performance marketing. The more learners use Duolingo and convert into paid subscribers, the more we are able to invest in creating an even more delightful, engaging and effective learning experience. In turn, this increases our popularity and user scale, as well as the effectiveness of our data analytics, further widening our competitive moat.

Our second product, the Duolingo English Test, is an online, on-demand assessment of English proficiency. Every year, millions of people around the world seek to demonstrate English proficiency for a variety of reasons, including university admissions, work visas, and job applications. We developed the Duolingo English Test because language assessment has lacked innovation, with the most popular English proficiency tests still administered in physical testing centers and usually costing hundreds of dollars per test. By offering a more accessible, online option that is both rigorous and accurate, we provide greater opportunities for aspiring students and professionals dependent on successful completion of these high stakes assessments. As of May 2021, over 3,000 higher education programs around the world accept Duolingo English Test results as proof of English proficiency for international student admissions. These include 17 of the top 20 undergraduate programs in the United States according to US News and World Report—for example, Yale, Stanford, MIT, Duke and Columbia. In 2020, roughly 344,000 individual Duolingo English Tests were purchased, mostly by prospective international students.

We believe we are just getting started. As the language learning market continues to shift online and digital subscriptions become increasingly prevalent in both mature and emerging markets, we expect to grow our number of monthly active users, as well as the portion of users who pay for a subscription. We also have a significant opportunity to impact more learners around the world by extending our platform to teach subjects beyond language, such as literacy and math. In 2020, for example, we launched Duolingo ABC, an app designed to teach early literacy skills to children ages three to six.

Our business has experienced rapid growth since our founding in 2011. For the years ended December 31, 2019 and 2020, we had 27 million and 37 million monthly active users, respectively, representing year-over-year growth of 34%, and we grew our paying subscribers from 0.9 million as of December 31, 2019 to 1.6 million as of December 31, 2020, or 84% year over year. For the quarter ended March 31, 2021, we had 40 million monthly active users, and as of March 31, 2021, we had 1.8 million paying subscribers. Our revenue was $70.8 million in 2019 and $161.7 million in 2020, representing 129% year-over-year growth. Our revenue was $28.1 million in the three months ended March 31, 2020 and $55.4 million in the three months ended March 31, 2021, representing 97% period-over-period growth. In 2020 and the three months ended March 31, 2021, approximately 73% and 72%, respectively, of our revenue came from subscriptions to Duolingo Plus, approximately 17% came from advertising in both periods, and approximately 10% and 11%, respectively, came from the Duolingo English Test and other revenue. Given the momentum in our business and the size of our market opportunity, we continue to invest in product innovation and data analytics. In 2019 and 2020, we had net losses of $13.6 million and $15.8 million, respectively. In the three months ended March 31, 2020 and 2021, we had net losses of $2.2 million and $13.5 million, respectively. Our Adjusted EBITDA improved from $(8.0) million in 2019 to $3.6 million in 2020, and was $(0.9) million and $0.9 million in the three months ended March 31, 2020 and 2021, respectively. Our total bookings were $88.0 million in 2019 compared to $190.2 million in 2020, representing 116% year-over-year growth, and $36.9 million in the three months ended March 31, 2020 compared to $65.8 million in the three months ended March 31, 2021, representing 78% period-over-period growth.

Industry Trends

We believe the following market trends will contribute to the continued success of our platform:

Mobile-first behaviors are reshaping industries. In categories ranging from retail to music to dating, consumers are increasingly gravitating to mobile, app-based experiences. We believe that consumer behavior will continue to be shaped by a preference for the convenient, on-demand nature of mobile experiences.

The shift towards online learning is accelerating. Historically, education has lagged behind other industries in the shift from offline to online. According to GSV Ventures, the 2019 digital learning market represented $160 billion in spend—already a sizable number, but still only 2.3% of total global education expenditures. However, the COVID-19 pandemic sparked a radical shift towards online learning, and its effects are likely to be enduring. GSV Ventures now predicts that digital learning will reach 11% of education market expenditures by 2026, representing approximately $1 trillion in spend and a 26% compound annual growth rate (CAGR) from 2019 to 2026.

Online learners seek engaging, mobile-first experiences. Consumers are increasingly accustomed to the highly engaging design of social media apps and mobile games. We believe that consumers turning to online learning will not only prefer the convenience and control that mobile apps provide, but also expect experiences to be highly engaging.

Adoption of subscription models is growing globally. Rising adoption of subscription models across the globe is further enabling the shift towards mobile experiences. We believe that as subscriptions increase in popularity across categories, consumers will also gravitate towards subscription models in online learning.

Market Opportunity

The global market for direct-to-consumer language learning is large, growing, and shifting online. According to HolonIQ, total consumer spend on both online and offline language learning represented a $61 billion market in 2019, and will grow to $115 billion in 2025, implying a CAGR of 11% over this period. Online language learning is the fastest-growing market segment, projected to grow from $12 billion in 2019 to $47 billion in

2025, representing a CAGR of approximately 26% over this period, and to comprise 41% of total consumer spend on language learning in 2025. We believe that growth in digital spend will be driven in part by a shift away from offline offerings, as consumers seek more affordable, convenient, and higher quality online solutions.

We also believe that growth in online language learning spend will be driven by consumers who would not have paid for offline offerings, but now choose to purchase online products. For example, according to a survey we conducted in 2021, almost 80% of Duolingo users in the US were not already learning a language when they began using Duolingo. Globally, GSMA reports that the number of mobile internet users is projected to grow from 3.8 billion at the end of 2019 to 5.0 billion by 2025. Growth in smartphone adoption can open up new access to the convenience and affordability of mobile-first learning to hundreds of millions of people.

We also have a significant opportunity to impact more learners around the world by extending our platform beyond language learning. According to HolonIQ, approximately $6 trillion was spent on education globally in 2019. And GSV Ventures reports that $160 billion was spent on digital learning, with digital spend expected to grow at a 26% CAGR from 2019 to 2026. We believe we can expand our addressable market by extending our scalable platform to other segments of learning such as literacy and math.

The Duolingo Learning Experience

The Duolingo learning experience sits at the rare intersection of fun and self-improvement. Learners love Duolingo because:

•It's fun. Duolingo feels more like a mobile game than an education product. Our bite-sized lessons and gamification features motivate learners to come back each day to continue learning.

•It's effective. Learners stick with Duolingo at first because it’s fun, and then over time also because they find that it works. Our expert-designed courses help learners build robust speaking, reading, listening, and writing skills, and our data analytics power personalization and superior learning outcomes.

•It's free. Every language course on Duolingo is free to access. Learners can spend as much time learning as they want and complete any and every course without paying. This lowers barriers to start learning and to keep learning.

In a world where people are increasingly engaged in immersive, bite-sized, mobile-first experiences, we provide such an experience that also results in learning valuable skills. Indeed, many of our learners prefer to spend time on Duolingo rather than on social media or mobile games because they can learn while still feeling entertained.

Our Product Philosophy

Each of our learning and gamification features is carefully crafted to contribute to a learner experience that is defined by several key principles:

Low friction. Beginning the learning journey on Duolingo is easy. We ensure that our onboarding journey is as intuitive as possible by continually reviewing the actions of new learners as they navigate our app for the first time. Duolingo is recognized as a gold standard for user experience design, with our onboarding flows used as examples of industry best practices.

Motivating game mechanics. Because we believe that staying motivated is the hardest part of learning something new, we focus relentlessly on keeping learners engaged. Ultimately, the high engagement driven by gamification leads to consistent learning and demonstrable efficacy.

Beautiful design and engaging storytelling. From the precise shape and color of each button, to the mood of the celebratory animations that congratulate learners upon finishing each lesson, our app is calibrated to maximize learners’ delight. Over the years, our owl mascot, Duo, has become a popular brand icon and a marketing asset for our company.

Diverse learning experiences informed by robust pedagogy. Our learning experiences are designed by an in-house team of experts in learning science and second language acquisition. Content in our largest courses is aligned to the Common European Framework of Reference (CEFR), an international standard for language proficiency, and the pedagogical structure of each course is unique.

Application of data analytics and artificial intelligence to optimize learning. We use data from over half a billion exercises completed daily to train sophisticated machine learning algorithms that we deploy to improve learning efficacy.

Measurable learning outcomes. In 2020, we conducted a formal study to evaluate Duolingo’s effectiveness versus traditional university language courses. We found that Duolingo learners earned proficiency scores comparable to those of US university students at the end of their fourth semester of French or Spanish. Moreover, the Duolingo learners were able to attain this level of proficiency in about half the time as the university students.

Our Technology Platform

Technology is at the core of everything we do. We utilize the latest in machine learning and data analytics, along with a relentless focus on A/B testing, to fuel our differentiated learning experience.

Highlights of our technology platform include:

Large data moat. With over half a billion exercises completed every day on our platform, we believe we have built the world's largest collection of language-learning data. We leverage this data by developing novel AI models at the intersection of machine learning, natural language processing, and cognitive science, which enable personalized instruction and power new product features that drive both engagement and efficacy.

Robust testing framework. The foundation of our product strategy is our relentless focus on improving learner engagement through A/B testing, and we run hundreds of A/B tests on new product features each quarter. These A/B tests also provide us with the data to make decisions that positively impact paid subscriber conversion.

Advanced data analytics and machine learning capabilities. Our machine learning capabilities allow us to leverage our data to optimize the learning experience. One example of this is our “student model,” called BirdBrain, which evaluates every learner’s answer to every exercise every day and learns to predict the probability that any learner will answer any given exercise correctly. We use BirdBrain predictions to adaptively construct lessons where each exercise is “just right” in terms of difficulty for each learner.

Shared infrastructure. Products across our platform, like our flagship Duolingo language learning app, Duolingo ABC, and the Duolingo English Test, share a singular technology infrastructure, which allows us to leverage operational efficiencies in implementing new features for each. With our shared infrastructure, we are able to innovate at a higher velocity.

Strict data protection and privacy standards. We are committed to abiding by the strictest privacy standards and do not sell personal data to outside parties.

Our Strengths

We believe the following strengths will drive our continued success in the global language learning market and beyond:

Product-obsessed culture focused on creating a fun, engaging experience. We use sophisticated gamification and beautiful design to make our products fun and engaging, inspiring learners to come back day after day to learn on our platform.

Leading consumer brand. Our free, fun, and effective learning experience has made us a category-leading brand in consumer education, which in turn drives organic traffic to our platform and minimizes our reliance on paid marketing.

Deep data analytics capabilities. Data from over 2.3 billion tracking events generated every day by our learners informs the more than 500 A/B tests we run per quarter. These A/B tests enable us to rapidly launch product optimizations and new features that materially improve engagement, learning outcomes, and paid subscriber conversion.

Superior learning outcomes through personalized learning. We also leverage our massive collection of language-learning data to develop novel artificial intelligence models at the intersection of machine learning, natural language processing, and cognitive science.

Powerful flywheel effects powered by a strong business model. Our mutually reinforcing Learning and Investment flywheels drive efficient growth on our platform while widening our competitive moat.

Highly scalable platform. We are a technology-driven company and have invested deeply in developing our scalable, mobile-first platform.

Strong profitability and cash flow dynamics drive long-term value. Our business model, which is focused on organic growth and “free to paid” conversion, results in efficient and relatively low marketing expenses. We expect this efficiency, combined with our high gross margins and technology infrastructure, to provide significant operating leverage over the long term, resulting in margin expansion, while allowing us to continue to invest in our brand, product innovation, and technology platform.

Mission-driven, founder-led management team. Duolingo is led by passionate co-founders and a leadership team of seasoned executives with a proven track record of scaling consumer technology businesses.

Our Growth Opportunities

We believe that we have a significant opportunity before us, both to further our mission and to strengthen our business and grow our revenue. Our growth opportunities include not only expanding our scale within the language learning market, but also leveraging the core competencies of our platform and brand to expand into new markets. We are focused on the following to drive our growth:

Continue expansion of learners on our platform. As a category leader in digital language learning, we believe we are well positioned to continue to grow the number of learners who use our platform. Our audience is globally distributed, and we are in the early stages of penetrating key international markets, including Europe, Asia, and Latin America.

Drive higher conversion to paid subscriptions. We believe our ongoing investment in product improvements, as well as rollout of new premium features, will continue to increase the conversion of free users to paying subscribers. In addition, continued optimizations of purchase flows, subscription packaging, and pricing will reduce the friction to subscribe. We believe we have the opportunity to increase monetization in markets across the globe, both in affluent English-speaking markets such as the United States and United Kingdom, and also among English learners worldwide.

Increase the lifetime value of our subscribers. As we continue to expand Duolingo’s subscriber base, we are also focused on subscriber stickiness, which drives the lifetime value of our subscribers. The primary way we improve subscriber stickiness is through product improvements that increase engagement, like Leaderboards and Streaks.

Expand adoption of the Duolingo English Test. We believe there is a significant opportunity to continue expanding adoption of the Duolingo English Test via three primary avenues: (1) continuing to expand acceptance by higher education programs for international student admissions; (2) accessing immigration and workforce markets in countries that require English proficiency assessment as a part of the visa approval or job recruiting and promotion processes; and (3) integrating with the Duolingo language learning app to provide our English learners with a more seamless experience between learning and assessment.

Extend our platform and brand beyond language learning. We believe that there is an opportunity to diversify the scope of our platform beyond language learning to a variety of subjects, using the same product-focused, mobile-first, gamified approach to education. For example, in 2020 we launched Duolingo ABC, an app for young children that teaches early literacy skills. We believe that expanding the scope of our platform to additional learning subjects will further expand our addressable market.

Risk Factors Summary

Our business is subject to a number of risks and uncertainties of which you should be aware before making a decision to invest in our Class A common stock. These risks are more fully described in the section titled "Risk Factors" immediately following this prospectus summary. These risks include, among others, the following:

•If we fail to keep existing users or add new users, or if our users decrease their level of engagement with our products or do not convert to paying users, our revenue, financial results and business may be significantly harmed.

•The online language learning industry is highly competitive, with low switching costs and a consistent stream of new products and entrants and innovation by our competitors may disrupt our business.

•Changes to our existing brand and products, or the introduction of a new brand or products, could fail to attract or keep users or generate revenue and profits.

•Our costs are continuing to grow, and some of our investments have the effect of reducing our operating margin and profitability. If our investments are not successful, our business and financial performance could be harmed.

•Our quarterly operating results and other operating metrics may fluctuate from quarter to quarter, which makes these metrics difficult to predict.

•Our user metrics and other estimates are subject to inherent challenges in measurement, and real or perceived inaccuracies in those metrics may negatively affect our reputation and our business.

•We rely on third-party platforms such as the Apple App Store and the Google Play Store to distribute our products and collect revenue. If we are unable to maintain a good relationship with such platform providers, if their terms and conditions or pricing changed to our detriment, if we violate, or if a platform provider believes that we have violated, the terms and conditions of its platform, or if any of these platforms loses market share or falls out of favor or is unavailable for a prolonged period of time, our business will suffer.

•We rely on third-party hosting and cloud computing providers, like Amazon Web Services (AWS) and Google Cloud, to operate certain aspects of our business. A significant portion of our product traffic is hosted by a limited number of vendors, and any failure, disruption or significant interruption in our network or hosting and cloud services could adversely impact our operations and harm our business.

•Our business is subject to complex and evolving US and international laws and regulations. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business.

•Our success depends, in part, on our ability to access, collect, and use personal data about our users and payers, and to comply with applicable data privacy laws.

•The varying and rapidly-evolving regulatory framework on privacy and data protection across jurisdictions could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business.

•From time to time, we may be party to intellectual property-related litigation and proceedings that are expensive and time consuming to defend, and, if resolved adversely, could materially adversely impact our business, financial condition and results of operations.

•We may fail to adequately obtain, protect and maintain our intellectual property rights or prevent third parties from making unauthorized use of such rights.

•We have identified a material weakness in our internal control over financial reporting. If we experience material weaknesses in the future or otherwise fail to implement and maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our common stock.

•The dual class structure of our common stock has the effect of concentrating voting control with those stockholders who held our capital stock prior to the listing of our Class A common stock on the Nasdaq Global Select Market, including our directors, executive officers, and 5% stockholders and their respective affiliates, who held in the aggregate 91.5% of the voting power of our capital stock as of March 31, 2021. This

ownership will limit or preclude your ability to influence corporate matters, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval.

Corporate Information

We were incorporated in August 2011 as a Delaware corporation. Our principal executive offices are located at 5900 Penn Avenue, Pittsburgh, Pennsylvania 15206, and our telephone number is (412) 567-6602. Our website address is www.duolingo.com. Information contained on, or that can be accessed through, our website does not constitute part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. Investors should not rely on any such information in deciding whether to purchase our Class A common stock.

The Duolingo word mark, "Duolingo," and our other registered or common law trademarks, service marks or tradenames appearing in this prospectus are the property of Duolingo, Inc. Solely for convenience, our trademarks, tradenames, and service marks referred to in this prospectus appear without the ®, TM, and SM symbols, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights to these trademarks, tradenames, and service marks. This prospectus contains additional trademarks, tradenames, and service marks of other companies that are the property of their respective owners.

Implications of Being An Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 (the JOBS Act). We will remain an emerging growth company until the earliest of (1) the last day of the fiscal year following the fifth anniversary of the consummation of this offering, (2) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (3) the last day of the fiscal year in which we are deemed to be a "large accelerated filer" as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended (the Exchange Act), which would occur if the market value of our common stock held by non-affiliates exceeded $700.0 million as of the last business day of the second fiscal quarter of such year or (4) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period. An emerging growth company may take advantage of specified reduced reporting requirements and is relieved of certain other significant requirements that are otherwise generally applicable to public companies. As an emerging growth company:

•We will present in this prospectus only two years of audited financial statements, plus unaudited condensed financial statements for any interim period, and related management's discussion and analysis of financial condition and results of operations;

•We will avail ourselves of the exemption from the requirement to obtain an attestation and report from our auditors on the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002;

•We will provide less extensive disclosure about our executive compensation arrangements; and •We will not require stockholder non-binding advisory votes on executive compensation or golden parachute arrangements.

Under the JOBS Act, emerging growth companies also can delay adopting new or revised accounting standards until such time as those standards would otherwise apply to private companies. While we have not historically delayed the adoption of new or revised accounting standards until such time as those standards would apply to private companies, we have elected to take advantage of this extended transition period and, as a result, our operating results and financial statements in the future may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

The Offering

Class A common stock offered by us	shares
Class A common stock offered by the selling stockholders	shares
Option to purchase additional shares of Class A common stock offered by us	shares. The underwriters can exercise this option at any time within 30 days from the date of this prospectus.
Class A common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares of Class A common stock in full).
Class B common stock to be outstanding after this offering	shares
Total Class A and Class B common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares of Class A common stock in full).
Voting rights	We have two classes of common stock, Class A and Class B common stock. The rights of holders of Class A and Class B common stock are identical, except voting and conversion rights. Each share of Class A common stock is entitled to one vote. Each share of Class B common stock is entitled to 20 votes and is convertible at any time into one share of Class A common stock.

	The holders of our outstanding Class B common stock will hold % of the voting power of our outstanding capital stock following this offering, with our directors, executive officers, and 5% stockholders and their respective affiliates holding approximately % of the voting power. These holders will have the ability to control the outcome of matters submitted to our stockholders for approval, including the election of our directors and the approval of any change of control transaction. See the section titled "Description of Capital Stock" for additional information.
Use of proceeds	We estimate that that we will receive net proceeds from this offering of approximately $ million (or $ million if the underwriters exercise their option to purchase additional shares of Class A common stock in full), based upon an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We will not receive any proceeds from the sale of shares of Class A common stock offered by the selling stockholders. The principal purposes of this offering are to increase our capitalization and financial flexibility and to create a public market for our Class A common stock. We currently intend to use the net proceeds from this offering for general corporate purposes, including working capital, operating expenses, and capital expenditures. We will have broad discretion in the way that we use the net proceeds of this offering. See the section titled "Use of Proceeds" for additional information.
Risk factors	See the section titled "Risk Factors" and the other information included in this prospectus for a discussion of factors you should carefully consider before deciding to invest in shares of our Class A common stock.
Proposed Nasdaq Global Select Market symbol	"DUOL"

The number of shares of our common stock to be outstanding after this offering is based on 6,187,542 shares of Class A common stock and 26,004,610 shares of Class B common stock outstanding as of March 31, 2021 (after giving effect to the Transactions (as defined below)), and excludes:

•6,736,002 shares of our Class A common stock issuable upon the exercise of options to purchase shares of our Class A common stock that were outstanding as of March 31, 2021, with a weighted-average exercise price of $9.64 per share, pursuant to our 2011 Equity Incentive Plan, as amended (2011 Plan);

•1,034,500 shares of our Class B common stock issuable upon the exercise of options to purchase shares of our Class B common stock that were outstanding as of March 31, 2021, with a weighted-average exercise price of $20.17 per share, pursuant to our 2011 Plan;

•41,917 shares of our Class A common stock issuable upon the vesting and settlement of restricted stock units (RSUs) outstanding as of March 31, 2021, pursuant to our 2011 Plan, including 1,743 RSUs for which the service-based condition had been satisfied as of March 31, 2021 and the performance-based condition is expected to be satisfied in connection with this offering;

•71,700 shares of our Class A common stock issuable upon the exercise of options to purchase shares of our Class A common stock that were granted after March 31, 2021, with an exercise price of $52.80 per share, pursuant to our 2011 Plan;

•2,352,788 shares of our Class A common stock issuable upon the vesting and settlement of RSUs that were granted after March 31, 2021, pursuant to our 2011 Plan;

• shares of our Class A common stock reserved for future issuance under our 2021 Incentive Award Plan (2021 Plan), which will become effective on the date immediately prior to the date our registration statement of which this prospectus forms a part becomes effective (and which excludes any potential annual evergreen increases pursuant to the 2021 Plan); and • shares of our Class A common stock reserved for future issuance under our Employee Stock Purchase Plan (ESPP), which will become effective on the date immediately prior to the date our registration statement of which this prospectus forms a part becomes effective (and which excludes any potential annual evergreen increases pursuant to the ESPP).

Our 2021 Plan and ESPP each provide for annual automatic increases in the number of shares reserved thereunder, and our 2021 Plan also provides for increases to the number of shares of Class A common stock that may be granted thereunder based on shares underlying any awards under our 2011 Plan that expire, are forfeited or are otherwise terminated, as more fully described in the section titled "Executive Compensation—Equity Compensation Plans—2021 Incentive Award Plan."

Except as otherwise indicated, all information in this prospectus assumes or gives effect to:

•the filing and effectiveness of our amended and restated certificate of incorporation in Delaware and the effectiveness of our amended and restated bylaws, each of which will occur immediately prior to the completion of this offering;

•the reclassification of all outstanding shares of our common stock as of March 31, 2021 into an equal number of shares of our Class A common stock and the subsequent exchange of all shares of Class A common stock held by Luis von Ahn and Severin Hacker (our Founders) into an aggregate of 6,930,334 shares of Class B common stock pursuant to the terms of an exchange agreement entered into with us, each of which will occur prior to completion of this offering (collectively, the Common Stock Reclassification and Exchange);

•the conversion of all outstanding shares of our convertible preferred stock as of March 31, 2021 into an aggregate of 19,074,276 shares of our Class B common stock, the conversion of which will occur immediately prior to the completion of this offering (the Preferred Stock Conversion);

•the reclassification of all shares of common stock underlying outstanding equity awards under our 2011 Plan (other than those held by our Founders) into shares of Class A common stock pursuant to an amendment to the 2011 Plan and the amendment of the terms of all outstanding stock options to purchase shares of common stock and RSUs under our 2011 Plan held by our Founders to provide that such awards are exercisable for or settle into shares of Class B common stock, which will occur immediately prior to the completion of this offering;

•no exercise of the outstanding options or settlement of outstanding RSUs except as described above; and •no exercise by the underwriters of their option to purchase up to additional shares of our Class A common stock.

Unless otherwise specified or context otherwise requires, we refer to the Common Stock Reclassification and Exchange and the Preferred Stock Conversion, collectively as the "Transactions." See the section titled "Description of Capital Stock" for additional information regarding the Transactions.

Summary Consolidated Financial and Other Data

The following tables summarize our consolidated financial and other data. The summary consolidated statements of operations data for the years ended December 31, 2019 and 2020 have been derived from our audited consolidated financial statements included elsewhere in this prospectus. We derived our summary consolidated statements of operations data for the three months ended March 31, 2020 and 2021 and the summary consolidated balance sheet data as of March 31, 2021 from our unaudited interim consolidated financial statements included elsewhere in this prospectus. In our opinion, the unaudited interim consolidated financial statements have been prepared on a basis consistent with our audited consolidated financial statements and contain all adjustments, consisting only of normal and recurring adjustments, necessary for a fair presentation of such interim financial statements. Our historical results are not necessarily indicative of results to be expected in the future and our interim results are not necessarily indicative of the results that may be expected for the full fiscal year or any other future period. You should read the following summary consolidated financial and other data in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes included elsewhere in this prospectus. The summary consolidated financial and other data in this section are not intended to replace, and are qualified in their entirety by, our consolidated financial statements and related notes.

Consolidated Statements of Operations Data:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands, except per share data)	2019	2020	2020	2021
Revenues	$70,760	$161,696	$28,112	$55,360
Cost of revenues(1)(2)	20,737	45,987	8,214	15,019
Gross profit	50,023	115,709	19,898	40,341
Operating expenses:				
Research and development(1)	31,560	53,024	9,576	22,529
Sales and marketing(1)(2)	14,989	34,983	5,511	19,773
General and administrative(1)	16,371	43,713	7,266	11,453
Impairment of capitalized software	1,228	—	—	—
Total operating expenses	64,148	131,720	22,353	53,755
Loss from operations	(14,125)	(16,011)	(2,455)	(13,414)
Other income, net	571	303	233	(41)
Loss before provision for income taxes	(13,554)	$(15,708)	$(2,222)	$(13,455)
Provision for income taxes	—	68	11	17
Net loss	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Basic and diluted net loss per share(3)	$(1.10)	$(1.24)	$(0.18)	$(1.04)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted (3)	12,373	12,735	12,403	12,916
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)(4)		$(0.59)		$(0.53)
Weighted-average shares used in computing pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)(4)		36,602		36,708

(1)Includes stock-based compensation expenses as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues	$6	$6	$1	$2
Research and development	1,552	2,773	447	1,111
Sales and marketing	341	348	73	68

General and administrative	1,826	13,904	633	1,370
Total	$3,725	$17,031	$1,154	$2,551

During the year ended December 31, 2020, we recorded compensation costs of $10.2 million related to a secondary transaction where certain employees sold shares of stock to an outside investor at a price above fair market value of the stock.

(2)Includes amortization of capitalized software as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues(a)	$103	$86	$26	$—
Sales and marketing(a)	621	546	33	148
Total	$724	$632	$59	$148

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(a)Amortization of capitalized software is recorded to cost of revenue and selling and marketing for revenue and non-revenue generating capitalized software, respectively.

(3)See Note 13 to our audited consolidated financial statements and Note 12 to our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate our basic and diluted net loss per share attributable to common stockholders.

(4)We have presented the unaudited pro forma basic and diluted net loss per share which has been computed to give effect to the conversion of our stock-based awards and convertible preferred stock into common stock (using the if-converted method) as though the conversion had occurred as of the beginning of the period. The unaudited pro forma net loss per share does not include shares being offered in this offering.

The following table sets forth the computation of our unaudited pro forma basic and diluted net loss per share:

(In thousands, except per share data)	Year Ended December 31, 2020	Three Months Ended March 31, 2021
Numerator:		
Net loss	$(15,776)	$(13,472)
Pro forma adjustment for RSU compensation expense(a)	(107)	(224)
Pro forma adjustment for executive stock options(b)	(5,724)	(5,649)
Pro forma net loss	(21,607)	(19,345)
Denominator:		
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	12,735	12,916
Pro forma adjustment to reflect assumed conversion of stock options(c)	4,191	4,136
Pro forma adjustment to reflect conversion of executive stock options(b	602	580
Pro forma adjustment to reflect assumed conversion of RSUs(d)	—	2
Pro forma adjustment to reflect assumed conversion of convertible preferred stock	19,074	19,074
Weighted-average shares used in computing pro forma net loss per share, basic and diluted	36,602	36,708
Pro forma net loss per share, basic and diluted	$(0.59)	$(0.53)

(a)Reflects stock-based compensation expenses related to RSUs subject to both a service-based vesting condition and a performance-based vesting condition, where the performance-based vesting condition will be satisfied in connection with this offering. There was $1.2 million and $1.4 million of unrecognized expense as of December 31, 2020 and March 31, 2021 remaining after the pro forma RSU compensation expense.

(b)Reflects the conversion of stock options for executives whereby the vesting accelerates in connection with this offering. There was $2.9 million and $2.5 million of unrecognized expense as of December 31, 2020 and March 31, 2021 remaining after giving effect to the pro forma stock-based compensation expense.

(c)Reflects the conversion of stock options that vest based solely on a service condition as of December 31, 2020 and March 31, 2021 but have not yet been exercised.

(d)Reflects RSUs that have vested as of December 31, 2020 and March 31, 2021 for which the service-based vesting condition had been satisfied as of December 31, 2020 and March 31, 2021, respectively, and for which the performance-based vesting condition will be satisfied in connection with this offering.

Consolidated Balance Sheet Data:

	As of March 31, 2021		
(In thousands)	Actual	Pro Forma(1)	Pro Forma As Adjusted(2)(3)
Cash and cash equivalents	$117,459		$$

Working capital	74,916	
Total assets	176,874	
Total deferred revenues	65,262	
Total stockholders' (deficit) equity	$(97,785)	$$

(1)The pro forma balance sheet data reflects (a) the Transactions as if such Transactions had occurred on March 31, 2021, and (b) the filing and effectiveness of our amended and restated certificate of incorporation, which will occur immediately prior to the completion of this offering.

(2)The pro forma as adjusted consolidated balance sheet data reflects (a) the pro forma adjustments set forth in footnote (1) above and (b) the sale and issuance of shares of our Class A common stock in this offering at an assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

(3)Each $1.00 increase or decrease in the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million share increase or decrease in the number of shares offered by us in this offering would increase or decrease the amount of our pro forma as adjusted cash and cash equivalents, working capital, total assets and total stockholders' (deficit) equity by approximately $ million, assuming that the initial public offering price per share remains at $, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Key Operating Metrics and Non-GAAP Financial Measures

We regularly review a number of key operating metrics and non-GAAP financial measures to evaluate our business, measure our performance, identify trends, prepare financial projections and make business decisions. The measures set forth below should be considered in addition to, not as a substitute for or in isolation from, our financial results prepared in accordance with US generally accepted accounting principles (GAAP). With respect to MAUs and DAUs, along with paid subscribers, these operating metrics help inform management about the underlying growth in users of our platform, and are a measure of our monetization efforts with respect to Duolingo Plus. Other companies, including companies in our industry, may calculate these measures differently or not at all, which reduces their usefulness as comparative measures. See "Selected Consolidated Financial and Other Data—Key Operating Metrics and Non-GAAP Financial Measures" for additional information on the operating metrics and non-GAAP financial measures set forth below, including a reconciliation of the non-GAAP financial measures, Adjusted EBITDA and free cash flow, to the most directly comparable financial measure calculated in accordance with GAAP.

	Year Ended December 31,		Three Months Ended March 31,	
(In millions, except dollar amounts in thousands)	2019	2020	2020	2021
Operating Metrics				
Monthly active users (MAUs)(1)	27.3	36.7	33.5	39.9
Daily active users (DAUs)(2)	5.2	8.2	6.8	9.5
Paid subscribers(3)	0.9	1.6	1.1	1.8
Subscription bookings(4)	$72,115	$144,379	$30,737	$50,466
Total bookings(5)	$88,033	$190,181	$36,880	$65,830
Non-GAAP Financial Measures				
Net loss (GAAP)	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Adjusted EBITDA(6)	$(7,969)	$3,630	$(867)	$871
Net cash provided by operating activities (GAAP)	$2,152	$17,708	$4,719	$5,123
Free cash flow(7)	$(3,094)	$13,976	$2,996	$3,825

(1)MAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each month. MAUs are reported for a measurement period by taking the average of each calendar month in that measurement period. MAUs are a measure of the size of our global active user community on Duolingo.

(2)DAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each calendar day. DAUs are reported for a measurement period by taking the average of the DAUs for each day in that measurement period. DAUs are a measure of the consistent engagement of our global user community on Duolingo.

(3)Paid subscribers are defined as users who pay for access to Duolingo Plus and had an active subscription as of the end of the measurement period. Each unique user account is treated as a single paid subscriber regardless of whether such user purchases multiple subscriptions, and the count of paid subscribers does not include users who are currently on a free trial.

(4)Subscription bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus.

(5)Total bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus, a registration for a Duolingo English Test, an in-app purchase for a virtual good and from advertising networks for advertisements served to our users.

(6)Adjusted EBITDA is defined as net loss excluding interest (income) expense, net, income tax provision, depreciation and amortization, IPO and public company readiness costs, stock-based compensation expense, tender offer-related costs, other expenses, and the impairment of capitalized software.

(7)Free cash flow is defined as net cash provided by operating activities, reduced by capital expenditures and capitalized software development costs, and increased by IPO and public company readiness costs.

Risk Factors

Investing in our Class A common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this prospectus, before making a decision to invest in our Class A common stock. If any of the risks actually occur, our business, results of operations, financial condition and prospects could be harmed. In that event, the trading price of our Class A common stock could decline, and you could lose part or all of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Business and Industry

If we fail to keep existing users or add new users, or if our users decrease their level of engagement with our products or do not convert to paying users, our revenue, financial results and business may be significantly harmed.

The size of our user base and our users' level of engagement and paid conversion are critical to our success. Our financial performance has been and will continue to be significantly determined by our success in adding, keeping and engaging users of our products and converting them into paying subscribers. We expect that the size of our user base will fluctuate or decline in one or more markets from time to time. If people do not perceive our products to be useful, effective, reliable, and/or trustworthy, we may not be able to attract or keep users or otherwise maintain or increase the frequency and duration of their engagement or the percentage of users that are converted into paying subscribers. There is no guarantee that we will not experience an erosion of our user base or engagement levels. User engagement can be difficult to measure, particularly as we introduce new and different products and services. Any number of factors can negatively affect user stickiness, growth, engagement and conversion, including if:

•users increasingly engage with other competitive products or services instead of our own;

•user behavior on any of our products changes, including decreases in the frequency and duration of use of our products and services;

•users feel that their experience is diminished as a result of the decisions we make with respect to the frequency, prominence, format, size and quality of ads that we display;

•users become concerned about our user data practices or other matters related to privacy and the sharing of user data;

•users lose confidence in our ability to teach language or other subjects or have concerns related to security or other factors;

•users are no longer willing to pay for subscriptions or in-app purchases;

•users have difficulty installing, updating or otherwise accessing our products on mobile devices as a result of actions by us or third parties that we rely on to distribute our products and deliver our services;

•we fail to introduce new features, products or services that users find engaging or if we introduce new products or services, or make changes to existing products and services, that are not favorably received;

•initiatives designed to attract and keep users and increase engagement are unsuccessful or discontinued, whether as a result of actions by us, third parties or otherwise;

•there is a decrease in user stickiness as a result of users no longer being interested in pursuing online language learning or reaching a point where they feel our product cannot advance their language ability;

•third-party initiatives that may enable greater use of our products, including low-cost or discounted data plans, are discontinued;

•we adopt terms, policies or procedures related to areas such as user data or advertising that are perceived negatively by our users or the general public;

•we fail to combat inappropriate or abusive activity on our platform;

•we fail to provide adequate customer service to users, marketers or other partners;

•we fail to protect our brand image or reputation;

•we, our partners or companies in our industry are the subject of adverse media reports or other negative publicity, including as a result of our or their user data practices;

•technical or other problems prevent us from delivering our products in a rapid and reliable manner or otherwise affect the user experience, such as unplanned site outages due to our failure or the failure of third-party systems we rely on, security breaches, distributed denial-of-service attacks or failure to prevent or limit spam or similar content;

•there is decreased engagement with our products as a result of internet shutdowns or other actions by governments that affect the accessibility of our products in any of our markets;

•there is decreased engagement with our products, or failure to accept our terms of service, as part of changes that we have implemented, or may implement, in the future in connection with regulations, regulatory actions or otherwise;

•there is decreased engagement with our products as a result of changes in prevailing social, cultural or political preferences in the markets where we operate; or •there are changes mandated by legislation, regulatory authorities or litigation that adversely affect our products or users.

From time to time, certain of these factors have negatively affected user stickiness, growth and engagement to varying degrees. If we are unable to maintain or increase our user base and user engagement, our revenue and financial results may be materially adversely affected. In addition, we may not experience rapid user growth or engagement in countries that have high mobile device penetration, but due to the lack of sufficient cellular based data networks, consumers rely heavily on Wi-Fi and may not access our products regularly throughout the day. Any decrease in user stickiness, growth or engagement could render our products less attractive to users, which is likely to have a material and adverse impact on our revenue, business, financial condition and results of operations. If our user growth rate slows or declines, we will become increasingly dependent on our ability to maintain or increase levels of user engagement and monetization in order to drive revenue growth.

The online language learning industry is highly competitive, with low switching costs and a consistent stream of new products and entrants, and innovation by our competitors may disrupt our business.

The online language learning industry is highly competitive, with a consistent stream of new products and entrants. As a result, new products, entrants and business models are likely to continue to emerge, both in the United States and abroad. It is possible that a new product could gain rapid scale at the expense of existing brands through harnessing a new technology, or a new or existing distribution channel, creating a new or different approach to connecting people or some other means. We compete for learners' time, attention, and share of wallet not only with other online and app-based language learning platforms, but also with offline forms of language learning. Because of the extensibility of the Duolingo platform beyond language learning, we also compete with language learning assessment providers and literacy platforms.

Many of the current and potential competitors, both domestically and internationally, have substantially greater financial, technical, sales, marketing and other resources than we do, as well as in some cases, lower costs. Some competitors offer more differentiated products (for example, online learning as well as physical classrooms and textbooks) that may allow them to more flexibly meet changing customer preferences. Some of our competitors may enjoy better competitive positions in certain geographical regions, user demographics or other key areas that we currently serve or may serve in the future, or in their ability to teach certain languages or to teach speakers of certain languages other languages. These advantages could enable these competitors to offer products that are more appealing to users and potential users than our products, to respond more quickly and/or cost-effectively than us to new or changing opportunities, new or emerging technologies or changes in customer requirements and preferences, or to offer lower prices than ours or to offer free language-learning products or services.

There are a number of free online language-learning opportunities to learn grammar, pronunciation, vocabulary (including specialties in areas such as medicine and business), reading and conversation by means of podcasts and mobile applications, audio courses and lessons, videos, games, stories, news, digital textbooks, and through other means, which compete with our products. We estimate that there are thousands of free mobile applications for language learning; free products are provided in at least 50 languages by private companies, universities and government agencies. Low barriers to entry allow start-up companies with lower costs and less pressure for profitability to compete with us. Competitors that are focused more on user acquisition rather than profitability may be able to offer products at significantly lower prices or for free. As free online translation services improve and become more widely available and used, people may generally become less interested in language learning. If we cannot successfully attract users of these free products and convert a sufficient portion of these free users into paying users, our business could be adversely affected. If free products become more engaging and competitive or gain widespread acceptance by the public, demand for our products could decline or we may have to lower our prices, which could adversely impact our revenue and other results.

Potential competitors also include larger companies that could devote greater resources to the promotion or marketing of their products and services, take advantage of acquisition or other opportunities more readily or develop and expand their products and services more quickly than we do. For example, in 2020, Apple released "Translate," an iOS translation app developed by Apple for iOS devices, to translate text sentences or speech between several languages. Potential competitors also include established social media companies that may develop products, features, or services that may compete with ours or operators of mobile operating systems and app stores. These social media and mobile platform

competitors could use strong or dominant positions in one or more markets, and ready access to existing large pools of potential users and personal information regarding those users, to gain competitive advantages over us. These may include offering different product features, services or pricing models that users may prefer, which may enable them to acquire and engage users at the expense of our user growth or engagement.

If we are not able to compete effectively against our current or future competitors and products or services that may emerge, the size and level of engagement of our user base may decrease, which could materially adversely affect our business, financial condition and results of operations.

Changes to our existing brand and products, or the introduction of a new brand or products, could fail to attract or keep users or generate revenue and profits.

Our ability to keep, increase, and engage our user base and to increase our revenue depends heavily on our ability to continue to evolve our existing brand and products and to create successful new brands and products. We may introduce significant changes to our existing brand and products, or acquire or introduce new and unproven brands, products and product extensions, including using technologies with which we have little or no prior development or operating experience. In addition, we often introduce a new product and delay its monetization until the product is more mature and the user base is better established. We have also invested, and expect to continue to invest, significant resources in growing our products to support increasing usage as well as new lines of business, new products, new product extensions and other initiatives to generate revenue. For example, in 2020, we launched our Duolingo ABC app, which has not yet generated any revenue for us. There is no guarantee that investing in new lines of business, new products, new product extensions and other initiatives will succeed. If our new or enhanced brands, products or product extensions fail to engage users, we may fail to attract or keep users or to generate sufficient revenue, operating margin, or other value to justify our investments, and our business may be materially adversely affected.

We have a limited operating history and, as a result, our past results may not be indicative of future operating performance.

We have a limited operating history, which makes it difficult to forecast our future results. You should not rely on our past quarterly operating results as indicators of future performance. You should take into account and evaluate our prospects in light of the risks and uncertainties frequently encountered by companies in rapidly-evolving markets like ours.

We have had operating losses each year since our inception and we may not achieve or maintain profitability in the future.

We have incurred operating losses each year since our inception and we may not achieve or maintain profitability in the future. Although our revenue has increased each quarter since the first quarter of 2018, there can be no assurances that it will continue to do so. Our operating expenses may continue to increase in the future as we increase our sales and marketing efforts and continue to invest in the development of products and services. These efforts may be costlier than we expect and we cannot guarantee that we will be able to increase our revenue to offset our operating expenses. Our revenue growth may slow or our revenue may decline for a number of other possible reasons, including reduced demand for our products or services, increased competition, a decrease in the growth or reduction in size of our overall market, or if we fail for any reason to capitalize on our growth opportunities. If we do not achieve or maintain profitability in the future, it could materially adversely affect our business, financial condition and results of operations.

We have grown rapidly in recent years and have limited operating experience at our current scale of operations. If we are unable to manage our growth effectively, our brand, company culture and financial performance may suffer.

We have experienced rapid growth and demand for our services since inception. We have expanded our operations rapidly and have limited operating experience at our current size. As we have grown, we have increased our employee headcount and we expect headcount growth to continue for the foreseeable future. From December 31, 2018 to May 31, 2021, our headcount grew from approximately 140 employees to over 400 employees. Further, as we grow, our business becomes increasingly complex. To effectively manage and capitalize on our growth, we must continue to expand our sales and marketing, focus on innovative product and content development, upgrade our management information systems and other processes, and obtain more space for our expanding staff. Our continued growth could strain our existing resources, and we could experience ongoing operating difficulties in managing our business across numerous jurisdictions, including difficulties in hiring, training, and managing a diffuse and growing employee base. Failure to scale and preserve our company culture with growth could harm our future success, including our ability to retain and recruit personnel and to effectively focus on and pursue our corporate objectives. If our management team does not effectively scale with our growth, we may experience erosion to our brand, the quality of our products and services may suffer, and our company culture may be harmed. Moreover, we have been, and may in the future be, subject to legacy claims or liabilities arising from our systems and controls, content or workforce in earlier periods of our rapid development.

Because we have a limited history operating our business at its current scale, it is difficult to evaluate our current business and future prospects, including our ability to plan for and model future growth. Our limited operating experience at this scale, combined with the rapidly-evolving nature of the market in which we operate, substantial uncertainty concerning how these markets may develop, and other economic factors beyond our control, reduces our ability to accurately forecast quarterly or annual revenue. Failure to manage our future growth effectively could have a material adverse effect on our business, financial condition, and operating results.

Our costs are continuing to grow, and some of our investments have the effect of reducing our operating margin and profitability. If our investments are not successful, our business and financial performance could be harmed.

Historically, our costs have increased each year since 2011 and we anticipate that our expenses will continue to increase in the future as we broaden our user base, develop and implement new products, market new and existing products and promote our brands, continue to expand our technical infrastructure, and continue to hire additional employees and contractors to support our expanding operations, including our efforts to focus on privacy, safety, and security. In addition, from time to time we may be subject to settlements, judgments, fines, or other monetary penalties in connection with legal and regulatory developments that may be material to our business. We may also invest in new platforms and technologies. Some of these investments may generate only limited revenue and reduce our operating margin and profitability. If these efforts are not successful, our ability to grow revenue will be harmed, which could materially adversely affect our business and financial performance.

Our quarterly operating results and other operating metrics may fluctuate from quarter to quarter, which makes these metrics difficult to predict.

Our quarterly operating results and other operating metrics have fluctuated in the past and may continue to fluctuate from quarter to quarter, which makes them difficult to predict. Our financial condition and operating results in any given quarter can be influenced by numerous factors, many of which we are unable to predict or are outside of our control, including, for example:

•the timing, size and effectiveness of our marketing efforts;

•the timing and success of new product, service and feature introductions by us or our competitors or any other change in the competitive landscape of our market;

•fluctuations in the rate at which we attract new users, the level of engagement of such users and the propensity of such users to subscribe to our brands or to purchase à la carte features;

•successful expansion into international markets;

•errors in our forecasting of the demand for our products and services, which could lead to lower revenue or increased costs, or both;

•increases in sales and marketing, product development or other operating expenses that we may incur to grow and expand our operations and to remain competitive;

•the diversification and growth of our revenue sources;

•our ability to maintain gross margins and operating margins;

•fluctuations in currency exchange rates and changes in the proportion of our expenses denominated in foreign currencies;

•changes in our effective tax rate;

•changes in accounting standards, policies, guidance, interpretations, or principles;

•our development and improvement of the quality of the Duolingo language app and Duolingo English Test, other Duolingo experiences, including, enhancing existing and creating new products, services, technology and features;

•the continued development and upgrading of our technology platform;

•system failures or breaches of security or privacy;

•our ability to obtain, maintain, protect and enforce intellectual property rights and successfully defend against claims of infringement, misappropriation or other violations of third-party intellectual property;

•adverse litigation judgments, settlements, or other litigation-related costs;

•changes in the legislative or regulatory environment, including with respect to privacy, intellectual property, consumer product safety, and advertising, or enforcement by government regulators, including fines, orders, or consent decrees; and •changes in business or macroeconomic conditions, including the impact of the current COVID-19 outbreak, lower consumer confidence in our business or in the online learning industry generally, recessionary conditions, increased unemployment rates, stagnant or declining wages, political unrest, armed conflicts, or natural disasters.

Any one of the factors above or the cumulative effect of some of the factors above may result in significant fluctuations in our results of operations.

The variability and unpredictability of our quarterly operating results or other operating metrics could result in our failure to meet our expectations or those of analysts that cover us or investors with respect to revenue or other operating results for a particular period. If we fail to meet or exceed such expectations, the market price of our Class A common stock could fall substantially, and we could face costly lawsuits, including securities class action suits.

Our user metrics and other estimates are subject to inherent challenges in measurement, and real or perceived inaccuracies in those metrics may negatively affect our reputation and our business.

We track certain key operational metrics and non-GAAP financial measures, including MAUs, DAUs, paid subscribers, subscription bookings, total bookings, Adjusted EBITDA and free cash flow, to evaluate growth trends, measure our performance, and make strategic decisions. Our user metrics are calculated using internal company data gathered on an analytics platform that we developed and operate, have not been validated by

an independent third party and may differ from estimates or similar metrics published by third parties due to differences in sources, methodologies, or the assumptions on which we rely. Our user metrics are also affected by technology on certain mobile devices that automatically runs in the background of our application when another phone function is used, and this activity can cause our system to miscount the user metrics associated with such an account. We continually seek to improve the accuracy of and our ability to track such data, but given the complexity of the systems involved and the rapidly changing nature of mobile devices and systems, we expect to continue to encounter challenges, particularly if we continue to expand in parts of the world where mobile data systems and connections are less stable. In addition, we may improve or change our methodologies for tracking these metrics over time, which could result in unexpected changes to our metrics, including the metrics we publicly disclose. As a result, while any future periods may benefit from such improvement or change, prior periods may not be as accurate or comparable, or we may need to adjust such prior periods. The methodologies used to measure these metrics require significant judgment and are also susceptible to algorithm or other technical errors. In addition, our methodologies for tracking these metrics may change over time, which could result in unexpected changes to our metrics, including the metrics we publicly disclose. If the internal systems and tools we use to track these metrics undercount or overcount performance or contain algorithmic or other technical errors, the data we report may not be accurate. While these numbers are based on what we believe to be reasonable estimates of our metrics for the applicable period of measurement, there are inherent challenges in measuring how our products are used across large populations globally.

Errors or inaccuracies in our metrics or data could also result in incorrect business decisions and inefficiencies. For instance, if a significant understatement or overstatement of active users were to occur, we may expend resources to implement unnecessary business measures or fail to take required actions to attract a sufficient number of users to satisfy our growth strategies. We continually seek to address technical issues in our ability to record such data and improve our accuracy, but given the complexity of the systems involved and the rapidly changing nature of mobile devices and systems, we expect these issues to continue, particularly if we continue to expand in parts of the world where mobile data systems and connections are less stable. If our operational metrics are not accurate representations of our business, or if investors do not perceive these metrics to be accurate, or if we discover material inaccuracies with respect to these figures, our reputation may be significantly harmed, our stock price could decline, we may be subject to stockholder litigation, and our business, results of operations, and financial condition could be materially adversely affected.

We rely on third-party platforms such as the Apple App Store and the Google Play Store to distribute our products and collect revenue. If we are unable to maintain a good relationship with such platform providers, if their terms and conditions or pricing changes to our detriment, if we violate, or if a platform provider believes that we have violated, the terms and conditions of its platform, or if any of these platforms loses market share or falls out of favor or is unavailable for a prolonged period of time, our business will suffer.

Our products depend on mobile app stores and other third parties such as data center service providers, as well as third party payment aggregators, computer systems, internet transit providers and other communications systems and service providers. Our mobile applications are almost exclusively accessed through and depend on the Apple App Store and the Google Play Store. While our mobile applications are generally free to download from these stores, we offer our users the opportunity to purchase subscriptions and certain à la carte features through these applications. We determine the prices at which these subscriptions and features are sold. Purchases of these subscriptions and features via our mobile applications are mainly processed through the in-app payment systems provided by Apple and Google. We pay Apple and Google, as applicable, a meaningful share (generally 30%) of the revenue we receive from transactions processed through in-app payment systems. In 2020, we derived 51% of our revenue and 53% of our total bookings from the Apple App Store, and 19% of our revenue and 20% of our total bookings from the Google Play Store. The timing of their payments also may change, which may negatively impact our cash receipts and working capital. While we do not anticipate any interruption in their distribution platforms or ability to accept customer payments, any such disruptions, even temporary, may have material impacts on our business and operations.

We are subject to the standard policies and terms of service of third-party platforms, which govern the promotion, distribution, content and operation generally of apps on the platform. Each platform provider has broad discretion to make changes to its operating systems or payment services or change the manner in which their mobile operating systems function and to change and interpret its terms of service and other policies with respect to us and other developers, and those changes may be unfavorable to us. For example, such changes could limit, eliminate or otherwise interfere with our products, our ability to distribute our applications through their stores, our ability to update our applications, including to make bug fixes or other feature updates or upgrades, the features we provide, the manner in which we market our in-app products, our ability to access native functionality or other aspects of mobile devices, and our ability to access information about our users that they collect. In addition, our distribution agreements with Apple and Google are generally terminable by Apple or Google without cause with 30 days prior written notice (to the extent allowed by applicable local law). Apple and Google may also terminate our agreements with them immediately (unless a longer period is required by applicable law) under certain circumstances, including upon our uncured breach of such agreements. To the extent Apple, Google or other third party platform providers on which we rely make such changes or terminate our agreements with them, our business, financial condition and results of operations could be materially adversely affected.

A platform provider may also change its fee structure, add fees associated with access to and use of its platform, alter how we are able to advertise on the platform, change how the personal information of its users is made available to application developers on the platform, limit the use of personal information for advertising purposes, or restrict how users can share information with their friends on the platform or across platforms. For example, in December 2017, Apple revised its App Store Guidelines to require the disclosure of the odds of receiving certain types of virtual items from “loot boxes” (or similar mechanisms that offer a paid license to randomized virtual items) before customers purchase a license for the virtual items, and in May 2019 Google revised its Play Store policies to require similar disclosures. As another example, in 2020 Apple announced

that a version update of iOS 14 will require its users, on an app-by-app basis, to explicitly opt-in to the use of identifier-for-advertising, a device identifier assigned by Apple to each of its devices and used by advertisers to attribute app installs to advertising campaigns, target users through user acquisition, and deliver targeted ads. Based on statements from Apple, we anticipate these changes will take effect in 2021. We are continuing to evaluate how these rules or announced changes may affect our business, operations and financial results.

If we violate, or a platform provider believes we have violated, its terms of service (or if there is any change or deterioration in our relationship with these platform providers), that platform provider could limit or discontinue our access to the platform. A platform provider could also limit or discontinue our access to the platform if it establishes more favorable relationships with one or more of our competitors or it determines that we are a competitor. Any limit or discontinuation of our access to any platform could significantly reduce our ability to distribute our products to users, decrease the size of the user base we could convert into paying users, or decrease the revenues we derive from paying users or advertisers, each of which would materially and adversely affect our business, financial condition and results of operations.

We also rely on the continued popularity, customer adoption, and functionality of third-party platforms. In the past, some of these platform providers have been unavailable for short periods of time or experienced issues with their in-app purchasing functionality. If either of these events recurs on a prolonged, or even short-term, basis or other similar issues arise that impact users' ability to access our app or access social features, our business, financial condition, results of operations or reputation may be harmed.

We rely on third-party hosting and cloud computing providers, like Amazon Web Services (AWS) and Google Cloud, to operate certain aspects of our business. A significant portion of our product traffic is hosted by a limited number of vendors, and any failure, disruption or significant interruption in our network or hosting and cloud services could adversely impact our operations and harm our business.

Our technology infrastructure is critical to the performance of our products and to user satisfaction, as well as our corporate functions. Our products and company systems run on a complex distributed system, or what is commonly known as cloud computing. We own, operate and maintain elements of this system, but significant elements of this system are operated by third-parties that we do not control and which would require significant time and expense to replace. We expect this dependence on third-parties to continue. We have suffered interruptions in service in the past, including when releasing new software versions or bug fixes, and if any such interruption were significant and/or prolonged it could adversely affect our business, financial condition, results of operations or reputation.

In particular, a significant portion, if not almost all, of our product traffic, data storage, data processing and other computing services and systems is hosted by AWS and Google Cloud. AWS and Google Cloud provide us with computing and storage capacity pursuant to an agreement that continues until terminated by either party. The agreements require AWS and Google Cloud to provide us their standard computing and storage capacity and related support in exchange for timely payment by us. We have experienced, and may in the future experience, disruptions, outages and other performance problems due to a variety of factors, including infrastructure changes, human or software errors and capacity constraints. If a particular application is unavailable when users attempt to access it or navigation through a product is slower than they expect, users may stop using the application and may be less likely to return to the application as often, if at all.

Any failure, disruption or interference with our use of hosted cloud computing services and systems provided by third-parties, like AWS or Google Cloud, could adversely impact our business, financial condition or results of operations. In addition, since many of the technical specialists responsible for managing disruptions to our technology infrastructure are working from home in accordance with shelter-in-place orders issued due to the COVID-19 pandemic, the time required to remedy any interruption may increase. To the extent we do not effectively respond to any such interruptions, upgrade our systems as needed and continually develop our technology and network architecture to accommodate traffic, our business, financial condition or results of operations could be adversely affected. Furthermore, our disaster recovery systems and those of third-parties with which we do business may not function as intended or may fail to adequately protect our critical business information in the event of a significant business interruption, which may cause interruption in service of our products, security breaches or the loss of data or functionality, leading to a negative effect on our business, financial condition or results of operations.

In addition, we depend on the ability of our users to access the internet. Currently, this access is provided by companies that have significant market power in the broadband and internet access marketplace, including incumbent telephone companies, cable companies, mobile communications companies, government-owned service providers, device manufacturers and operating system providers, any of whom could take actions that degrade, disrupt or increase the cost of user access to our products or services, which would, in turn, negatively impact our business. The adoption or repeal of any laws or regulations that adversely affect the growth, popularity or use of the internet, including laws or practices limiting internet neutrality, could decrease the demand for, or the usage of, our products and services, increase our cost of doing business and adversely affect our results of operations.

We derive a portion of our revenues from advertisements. If we are unable to continue to compete for these advertisements, or if any events occur that negatively impact our relationships with advertising networks, our advertising revenues and operating results would be negatively impacted.

We generate advertising revenue from the sale of display and video advertising delivered through advertising impressions. In 2020, approximately 17% of our total revenues were derived from advertising. We generally enter into arrangements with the major programmatic advertising networks to monetize our advertising inventory. We need to maintain good relationships with these advertising networks to provide us with a sufficient inventory of advertisements. Online advertising, including through mobile applications, is an intensely competitive industry. Many large companies, such as Amazon, Facebook and Google, invest significantly in data analytics to make their websites and platforms more attractive to advertisers. Our advertising revenue is primarily a function of the number and hours of engagement of our free users and our ability to provide

innovative advertising products that are relevant to our users and enhance returns for our advertising partners. If our relationship with any advertising partners terminates for any reason, or if the commercial terms of our relationships are changed or do not continue to be renewed on favorable terms, we would need to qualify new advertising partners, which could negatively impact our revenues, at least in the short term.

In addition, internet-connected devices and operating systems controlled by third parties increasingly contain features that allow device users to disable functionality that allows for the delivery of advertising on their devices or reduce the ability to provide personalized or targeted advertising, which results in less valuable ads. Device and browser manufacturers may include or expand these features as part of their standard device specifications. For example, when Apple announced that UDID, a standard device identifier used in some applications, was being superseded and would no longer be supported, application developers were required to update their apps to utilize alternative device identifiers such as universally unique identifier, or, more recently, identifier-for-advertising, which simplifies the process for Apple users to opt out of behavioral targeting. As of April 2021, Apple has deployed further changes, requiring its users with a version of iOS 14 (and presumably future iOS versions) to opt into the use of identifier-for-advertising on a per app basis. Furthermore, laws and regulations may also make it more difficult to deliver personalized or targeted advertising or impose requirements that result in more users making elections to block our ability to deliver targeted ads. If users do not elect to participate in functionality that supports the delivery of targeted advertising on their devices, our ability to deliver effective advertising campaigns could suffer, which could cause our business, financial condition, or results of operations to suffer. The impact of these operating systems changes or potential future regulation on targeted advertising is highly uncertain.

If we are not able to maintain the value and reputation of our brand, our ability to expand our base of users may be impaired, and our business and financial results may be harmed.

We believe that our brand has significantly contributed to our word of mouth virality, which has in turn contributed to the success of our business. We also believe that maintaining, protecting and enhancing our brand is critical to expanding our base of users and, if we fail to do so, our business, financial condition and results of operations could be materially adversely affected. We believe that the importance of brand recognition will continue to increase, given the growing number of language learning applications, or "apps," and the low barriers to entry for companies offering language learning products and services. Many of our new users are referred by existing users. Maintaining our brand will depend largely on our ability to continue to provide useful, reliable, trustworthy and innovative products, which we may not do successfully.

Further, we may experience media, legislative, or regulatory scrutiny of our actions or decisions regarding user privacy, encryption, content, contributors, advertising and other issues, which may materially adversely affect our reputation and brand. In addition, we may fail to respond expeditiously or appropriately to objectionable content within our app or practices by users, or to otherwise address user concerns, which could erode confidence in our brand. Maintaining and enhancing our brand will require us to make substantial investments and these investments may not be successful.

Our growth and profitability rely, in part, on our ability to attract and keep users through cost-effective marketing efforts, including through our social media presence and use of social media influencers. Any failure in these efforts could materially adversely affect our business, financial condition and results of operations.

We have increased our marketing expenditures over time in order to attract and keep users and sustain our growth. For the years ended December 31, 2019 and 2020, our sales and marketing expenses were $15.0 million and $35.0 million, respectively. For the three months ended March 31, 2020 and 2021, our sales and marketing expenses were $5.5 million and $19.8 million, respectively. Evolving consumer behavior can affect the availability of profitable marketing opportunities. For example, as consumers communicate less via email and more via text messaging, messaging apps and other virtual means, the reach of email campaigns designed to attract new and repeat users (and keep current users) for our products is adversely impacted. To continue to reach potential users and grow our businesses, we must identify and devote our overall marketing expenditures to newer advertising channels, such as mobile and online video platforms as well as targeted campaigns in which we communicate directly with potential, former and current users via new virtual means. Generally, the opportunities in and sophistication of newer advertising channels are relatively undeveloped and unproven, and there can be no assurance that we will be able to continue to appropriately manage and fine-tune our marketing efforts in response to these and other trends in the advertising industry. Any failure to do so could materially adversely affect our business, financial condition and results of operations.

We are subject to certain risks as a mission-based company.

We believe that a critical contributor to our success has been our commitment to make free language learning available worldwide in an effort to help people throughout the world improve their economic outcomes. The mission of Duolingo is a significant part of our business strategy and who we are as a company. We believe that Duolingo users value our commitment to our mission. However, because we hold ourselves to such high standards, and because we believe our users have come to have high expectations of us, we may be more severely affected by negative reports or publicity if we fail, or are perceived to have failed, to live up to Duolingo's mission. For example, maintaining a free version of the app that is both effective and enjoyable is central to Duolingo's mission. As a result, our brand and reputation may be negatively affected by actions we take that are viewed as contrary to that mission, such as features that are only available to Plus subscribers or changes to the free offering that are viewed as undermining how fun or effective the free offering is. In these or other circumstances, the damage to our reputation may be greater than to other companies that do not share similar values with us, and it may take us longer to recover from such an incident and gain back the trust of our users.

We may make decisions regarding our business and products in accordance with Duolingo's mission and values that may reduce our short- or medium-term operating results if we believe those decisions are consistent with the mission and will improve the aggregate user experience. Although we expect that our commitment to Duolingo's mission will, accordingly, improve our financial performance over the long term, these decisions may not be consistent with the expectations of investors and any longer-term benefits may not materialize within the time frame we expect or at all, which could harm our business, revenue and financial results.

Unfavorable media coverage could materially adversely affect our business, brand image or reputation.

Unfavorable publicity or media reports regarding us, our privacy practices, data security compromises or breaches, product changes, product or service quality or features, litigation or regulatory activity or regarding the actions of our partners, our users, our employees or other companies in our industry, could materially adversely affect our brand image or reputation, regardless of the veracity of such publicity or media reports. If we fail to protect our brand image or reputation, we may experience material adverse effects to the size, demographics, engagement, and loyalty of our user base, resulting in decreased revenue, fewer app installs (or increased app uninstalls), or slower user growth rates. Damage to our brand or reputation could also adversely affect educational institutions' willingness to accept the Duolingo English Test, which in turn could slow the growth of, or reduce, our revenue from the Duolingo English Test. In addition, if securities analysts or investors perceive any media coverage of us to be negative, the price of our Class A common stock may be materially adversely affected. Any of the foregoing could materially adversely affect our business, financial condition and results of operations.

Our future success depends on the continuing efforts of our key employees and our ability to attract and retain highly skilled personnel and senior management.

We currently depend on the continued services and performance of our key personnel, including Luis von Ahn and Severin Hacker. If one or more of our executive officers or key employees were unable or unwilling to continue their employment with us, we might not be able to replace them easily, in a timely manner, or at all. The risk that competitors or other companies may poach our talent increases as we continue to build our brands and become more well-known. Our key personnel have been, and may continue to be, subject to poaching efforts by our competitors and other internet and high-growth companies, including well-capitalized players in the social media and consumer internet space. The loss of key personnel, including members of management as well as key engineering, product development, design and marketing personnel, could disrupt our operations and have a material adverse effect on our business. The success of our brand also depends on the commitment of our key personnel to our mission. To the extent that any of our key personnel act in a way that does not align with our mission, our reputation could be materially adversely affected. See "—Our employees could engage in misconduct that materially adversely affects us."

Our future success will depend upon our continued ability to identify, hire, develop, motivate, and retain highly skilled individuals across the globe, with the continued contributions of our senior management being especially critical to our success. Competition for well-qualified, highly skilled employees in our industry is intense and our continued ability to compete effectively depends, in part, upon our ability to attract and retain new employees. While we have established programs to attract new employees and provide incentives to retain existing employees, particularly our senior management, we cannot guarantee that we will be able to attract new employees or retain the services of our senior management or any other key employees in the future. Additionally, we believe that our culture and core values have been, and will continue to be, a key contributor to our success and our ability to foster the innovation, creativity and teamwork we believe we need to support our operations. If we fail to effectively manage our hiring needs and successfully integrate our new hires, or if we fail to effectively manage remote work arrangements resulting from the COVID-19 pandemic, our efficiency and ability to meet our forecasts and our ability to maintain our culture, employee morale, productivity and retention could suffer, and our business, financial condition and results of operations could be materially adversely affected.

Finally, effective succession planning is also important to our future success. If we fail to ensure the effective transfer of senior management knowledge and smooth transitions involving senior management across our various businesses, our ability to execute short and long term strategic, financial and operating goals, as well as our business, financial condition, and results of operations generally, could be materially adversely affected.

Our employees, consultants and third party providers could engage in misconduct that materially adversely affects us.

Our employees, consultants and third party providers could engage in misconduct that materially and adversely affects us. Misconduct by these parties could include intentional failures to comply with the applicable laws and regulations in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. These laws and regulations may restrict or prohibit a wide range of pricing, discounting and other business arrangements. Such misconduct could result in legal or regulatory sanctions and cause serious harm to our reputation. It is not always possible to identify and deter misconduct by these parties, and any other precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses, or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could result in the imposition of significant civil, criminal and administrative penalties, which could have a significant impact on our business. Whether or not we are successful in defending against such actions or investigations, if any of our employees, consultants or third party providers were to engage in or be accused of misconduct, we could be exposed to legal liability, incur substantial costs, our business and reputation could be materially adversely affected, and we could fail to retain key employees. See "—Unfavorable media coverage could seriously harm our business, brand image or reputation."

If the acceptance by educational organizations of technology-based education does not continue to grow, or if technology-based education is discouraged by educational organizations, it could have a material adverse effect on our business.

Our success depends in part upon the continued adoption by educational organizations, such as schools, of technology-based education initiatives, including online learning. Some educators utilize our language learning application or Duolingo for Schools, our free web-based tool for teachers, as part of their curriculums or as a supplement to their curriculums. Based on a 2020 survey, we believe that almost 40% of foreign language teachers in US K-12 schools use Duolingo in their classrooms in some form. However, some academics and educators oppose online education in principle and have expressed concerns regarding the perceived loss of control over the education process that could result from offering or utilizing courses online. If the acceptance of technology-based education does not continue to grow, or if schools and other educational organizations do not continue to utilize our language learning application in the classroom or do not promote the utilization of our language learning application outside of the classroom, our ability to continue to grow our language learning application could be impaired.

If the recognition by schools and other educational organizations of the value of technology-based assessment does not continue to grow, or if schools and other organizations reduce their reliance on assessment in general, our ability to generate revenue from our assessment, including our Duolingo English Test, could be impaired.

The success of the Duolingo English Test depends in part upon the continued recognition and acceptance by schools and other educational organizations of technology-based assessment and upon the continued utilization of assessment in general. As a result of the COVID-19 pandemic, in 2020, a number of universities waived standardized test requirements for admissions requirements and some universities plan to phase out requirements for standardized testing altogether. In addition, some have questioned the validity of language assessments taken online. If schools and other educational organizations reduce their reliance, or altogether cease to use standardized testing as part of admissions processes or otherwise, or reduce or eliminate reliance on standardized testing, it would have a material adverse effect on our Duolingo English Test business, which could adversely affect our revenues and results of operations.

We operate in various international markets, including certain markets in which we have limited experience. As a result, we face additional risks in connection with certain of our international operations.

Both our language learning application and the Duolingo English Test are available all over the world. Operating internationally, particularly in countries in which we have limited experience, exposes us to a number of additional risks, including:

•operational and compliance challenges caused by distance, language and cultural differences;

•the cost and resources required to localize our platform and services, which often requires the translation of our platform into foreign languages and adaptation for local practices and regulatory requirements;

•difficulties in staffing and managing international operations;

•differing levels of social and technological acceptance of our products or lack of acceptance of them generally;

•foreign currency fluctuations, and in particular, decreases in the value of foreign currencies relative to the US dollar;

•restrictions on the transfer of funds among countries and back to the United States, as well as costs associated with repatriating funds to the United States;

•differing and potentially adverse tax laws, including resulting from the complexities of foreign corporate income tax systems, value added tax (VAT) regimes, tax withholding rules, and other indirect taxes, tax collection or remittance obligations, and restrictions on the repatriation of earnings;

•multiple, conflicting and changing laws, rules and regulations, and difficulties understanding and ensuring compliance with those laws, rules and regulations by both our employees and our users, over whom we exert no control;

•compliance challenges due to different laws and regulatory environments, particularly in the case of privacy, data security, and content, which are complex, sometimes inconsistent, and subject to unexpected changes;

•competitive environments that favor local businesses;

•reduced or varied protection for our intellectual property rights in some countries;

•low usage and/or penetration of internet-connected consumer electronic devices;

•political tension or social unrest and economic instability, particularly in countries in which we operate;

•trade sanctions, political unrest, terrorism, war, health and safety epidemics (such as the COVID-19 pandemic) or the threat of any of these events; and •breaches or violation of any anti-corruption laws, rules or regulations applicable to our business, including but not limited to the Foreign Corrupt Practices Act of 1977, as amended.

Moreover, geopolitical tensions or regulatory uncertainty in countries in which we operate, such as China, may prevent us from operating in certain countries or increase our costs of operating in those countries.

Additionally, if enforcement authorities demand access to our user data or require that we obtain hard to obtain local licenses, our failure to comply with those demands or obtain those licenses could lead to our inability to operate in such countries or other punitive acts.

In addition to the factors listed above, we have invested to expand our operations in China, which is an intensely competitive market, both on the consumer side and from a talent perspective. We expect to continue to incur significant expenses to operate our business in China, and we may not achieve profitability in that market. As we expand our operations in China, the above factors, sentiment of the workforce in China, and China's policy towards foreign direct investment may particularly impact our operations in China. Further, as we expand our operations in China, we expect to continue to make modifications to the way our website, mobile apps, offerings, and features function in China as compared to other countries. In addition, we need to ensure that our business practices in China are compliant with local laws and regulations, which may be interpreted and enforced in ways that are different from our interpretation, and/or create obligations on us that are costly to meet or conflict with laws in other jurisdictions. Our office of approximately 17 employees in Beijing makes it easier for the Chinese authorities to bring enforcement actions against us.

The occurrence or impact of any or all of the events described above could materially adversely affect our international operations, which could in turn materially adversely affect our business, financial condition and results of operations.

Our business and results of operations may be materially adversely affected by the recent COVID-19 pandemic or other similar outbreaks.

Our business could be materially adversely affected by the outbreak of a widespread health epidemic or pandemic, including the COVID-19 pandemic. The COVID-19 pandemic has reached across the globe, resulting in the implementation of significant governmental measures, including lockdowns, closures, quarantines, and travel bans intended to control the spread of the virus. While some of these measures have been relaxed over the past few months in certain parts of the world, ongoing social distancing measures, and future prevention and mitigation measures, as well as the potential for some of these measures to be reinstituted in the event of repeat waves of the virus, are likely to have an adverse impact on global economic conditions and consumer confidence and spending, and could materially adversely affect demand, or users' ability to pay, for our products and services.

A public health epidemic or pandemic, including COVID-19, poses the risk that Duolingo or its employees, contractors, vendors, and other business partners may be prevented or impaired from conducting ordinary course business activities for an indefinite period of time, including due to shutdowns necessitated for the health and well-being of our employees, the employees of business partners, or shutdowns that may be requested or mandated by governmental authorities. In addition, in response to the COVID-19 outbreak, we have taken several precautions that may adversely impact employee productivity, such as requiring employees to work remotely, imposing travel restrictions, and temporarily closing office locations.

A widespread epidemic, pandemic or other health crisis could also cause significant volatility in global markets. The COVID-19 outbreak has caused disruption in financial markets, which if it continues or intensifies, could reduce our ability to access capital and thereby negatively impact our liquidity.

We intend to continue to execute on our strategic plans and operational initiatives during the COVID-19 outbreak; however, the aforementioned uncertainties may result in delays or modifications to these plans and initiatives. Part of our growth strategy includes increasing the number of international users and expanding into additional geographies. The timing and success of our international expansion may be negatively impacted by COVID-19, which could impede our anticipated growth.

The ultimate extent of the impact of any epidemic, pandemic, or other health crisis on our business will depend on multiple factors that are highly uncertain and cannot be predicted, including its severity, location and duration, and actions taken to contain or prevent further its spread. Additionally, the COVID-19 outbreak could increase the magnitude of many of the other risks described in this prospectus, and may have other material adverse effects on our operations that we are not currently able to predict. If our business and the markets in which we operate experience a prolonged occurrence of adverse public health conditions, such as COVID-19, it could materially adversely affect our business, financial condition, and results of operations.

An economic downturn or economic uncertainty may adversely affect consumer discretionary spending and demand for our products and services.

Our products and services may be considered discretionary items for consumers. Factors affecting the level of consumer spending for such discretionary items include general economic conditions, and other factors, such as consumer confidence in future economic conditions, fears of recession, the availability and cost of consumer credit, levels of unemployment, and tax rates. In recent years, the United States and other significant economic markets have experienced cyclical downturns and worldwide economic conditions remain uncertain. As global economic conditions continue to be volatile or economic uncertainty remains, including due to the COVID-19 outbreak, trends in consumer discretionary spending also remain unpredictable and subject to reductions. To date, our business has operated almost exclusively in a relatively strong economic environment and, therefore, we cannot be sure the extent to which we may be affected by recessionary conditions. Unfavorable economic conditions may lead consumers to delay or reduce purchases of our products and consumer demand for our products may not grow as we expect. Our sensitivity to economic cycles and any related fluctuation in consumer demand for our products and services could materially adversely affect our business, financial condition, and results of operations. In addition, political instability or adverse political developments, could harm our business, financial condition and results of operations.

Security breaches of our networks, systems or applications, improper unauthorized access to or disclosure of our proprietary data or user-related data, including personal data, other hacking and phishing attacks on our systems or service, or other cyber incidents could disrupt our services or compromise sensitive information related to our business and/or personal data processed by us or on our behalf and expose us to liability, which could harm our reputation and materially adversely affect our business.

Our products and services and the operation of our business involve the collection, storage, processing, and transmission of data, including personal data. The information systems that store and process such data are susceptible to increasing threats of continually evolving cybersecurity risks. In particular, our industry is prone to cyber-attacks by third parties seeking unauthorized access to confidential or sensitive data, including user personal data, or to disrupt our ability to provide services. We face an ever-increasing number of threats to our information systems from a broad range of threat actors, including foreign governments, criminals, competitors, computer hackers, cyber terrorists and politically motivated groups or individuals, and we have previously experienced various attempts to access our information systems. These threats include physical or electronic break-ins, security breaches from inadvertent or intentional actions by our employees, contractors, consultants, and/or other third parties with otherwise legitimate access to our systems, website or facilities, or from cyber-attacks by malicious third parties which could breach our data security and disrupt our systems. The motivations of such actors may vary, but breaches that compromise our information technology systems or the personal data processed on such systems can cause interruptions, delays or operational malfunctions, which in turn could have a material adverse effect on our business, results of operations, financial condition and prospects.

In addition, the risks related to a security breach or disruption, including through ransomware, a distributed denial-of-service (DDoS) attack, computer malware, viruses, social engineering (predominantly spear phishing attacks), and general hacking, have become more prevalent in our industry and have generally increased as the number, intensity, and sophistication of attempted attacks and intrusions from around the world have increased.

Such security breaches or disruptions have occurred on our systems in the past and will occur on our systems in the future. We also regularly encounter attempts to create false or undesirable user accounts and ads or take other actions on our platform for objectionable ends. As a result of our prominence, the size of our user base, the volume of personal data on our systems, and the evolving nature of our products and services (including our efforts involving new and emerging technologies), we may be a particularly attractive target for such attacks, including from highly sophisticated, state-sponsored, or otherwise well-funded criminal actors.

Our efforts to address undesirable activity on our platform also increase the risk of retaliatory attacks. Such breaches and attacks on us or our third-party service providers may cause interruptions to the services we provide, degrade the user experience, cause users or marketers to lose confidence and trust in our products and decrease the use of our products or stop using our products in their entirety, impair our internal systems, or result in financial harm to us. Any failure to prevent or mitigate security breaches and unauthorized access to or disclosure of our data or user data, including personal information, content, or payment information from users, or information from marketers, could result in the loss, modification, disclosure, destruction, or other misuse of such data, which could subject us to legal liability and penalties, harm our business and reputation and diminish our competitive position. We may incur significant costs in protecting against or remediating such incidents and as cybersecurity incidents continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. Our efforts to protect our confidential and sensitive data, the data of our users or other personal information we receive, and to prevent or disable undesirable activities on our platform, may also be unsuccessful due to software bugs or other technical malfunctions; employee, contractor, or vendor error or malfeasance, including defects or vulnerabilities in our service providers' information technology systems or offerings; government surveillance; breaches of physical security of our facilities or technical infrastructure; or other threats that may surface or evolve.

In addition, third parties may attempt to fraudulently induce employees or users to disclose information in order to gain access to our data or our users' data. Cyber-attacks continue to evolve in sophistication and volume, and may be difficult to detect for long periods of time. Although we have developed systems and processes that are designed to protect our data and user data, to prevent data loss, to disable undesirable accounts and activities on our platform, and to prevent or detect security breaches, we cannot assure you that such measures will be successful, that we will be able to anticipate or detect all cyber-attacks or other breaches, that we will be able to react to cyber-attacks or other breaches in a timely manner, or that our remediation efforts will be successful. We may incur significant costs in connection with such remediation efforts, including the costs of notifying applicable regulators and affected users, or offering credit monitoring services. We may also incur significant legal and financial exposure, including legal claims, higher transaction fees and regulatory fines and penalties as a result of any compromise or breach of our systems or data security, or the systems and data security of our third party providers. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, some of our partners may receive or store information provided by us or by our users through mobile or web applications integrated with our applications and we use third-party service providers to store, transmit and otherwise process certain confidential, sensitive or personal information on our behalf.

If these third parties fail to adopt or adhere to adequate data security practices, or in the event of a breach of their networks, our data or our users' data may be improperly accessed, used, or disclosed, which could subject us to legal liability. We cannot control such third parties and cannot guarantee that a security breach will not occur on their systems. Although we may have contractual protections with our third-party service providers, contractors and consultants, any actual or perceived security breach could harm our reputation and brand, expose us to potential

liability or require us to expend significant resources on data security and in responding to any such actual or perceived breach. Any contractual protections we may have from our third-party service providers, contractors or consultants may not be sufficient to adequately protect us from any such liabilities and losses, and we may be unable to enforce any such contractual protections.

While our insurance policies include liability coverage for certain of these matters, subject to retention amounts that could be substantial, if we experience a significant security incident, we could be subject to liability or other damages that exceed our insurance coverage and we cannot be certain that such insurance policies will continue to be available to us on economically reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our results of operations, financial condition and cash flows.

If the security of personal and confidential or sensitive user information that we maintain and store is breached, or otherwise accessed by unauthorized persons, it may be costly to remediate such breach, subject us to regulatory investigations or private party lawsuits, and our reputation could be harmed.

We receive, process, store, and transmit personal user and other confidential or sensitive information, including credit card information and personal information of our employees and users. In some cases, we engage third-party service providers to process or store this information. We continuously develop and maintain systems to protect the security, integrity and confidentiality of this information, but we have experienced past incidents (which to our knowledge were immaterial) and cannot guarantee that inadvertent or unauthorized use or disclosure of such information will not occur in the future or that third parties will not gain unauthorized access to such information despite our efforts. When such incidents occur, we may not be able to remedy them, we may be required by law to notify regulators and individuals whose personal information was used or disclosed without authorization, we may be subject to claims against us, including government enforcement actions or investigations, fines and litigation, and we may have to expend significant capital and other resources to mitigate the impact of such events, including developing and implementing protections to prevent future events of this nature from occurring. When breaches of our or our third-party service providers' and partners' information technology systems occur or unauthorized access to any of the confidential, sensitive or other personal information we collect or process occurs, the perception of the effectiveness of our security measures, the security measures of our partners and our reputation may be harmed, we may lose current and potential users and the recognition of our various brands and such brands' competitive positions may be diminished, any or all of which might materially adversely affect our business, financial condition and results of operations. See "–The varying and rapidly-evolving regulatory framework on privacy and data protection across jurisdictions could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business."

We are subject to a number of risks related to credit card payments, including data security breaches and fraud that we or third parties experience or additional regulation, any of which could materially adversely affect our business, financial condition and results of operations.

In addition to purchases through the Apple App Store and the Google Play Store, we accept payment from our users through credit card transactions, certain online payment service providers, and mobile payment platforms. The ability to access credit card information on a real-time basis without having to proactively reach out to the consumer each time we process an auto-renewal payment or a payment for the purchase of a premium feature on any of our products is critical to our success and a seamless experience for our users.

When we or a third party experiences a data security breach involving credit card information, affected cardholders will often cancel their credit cards. In the case of a breach experienced by a third party, the more sizable the third party's customer base and the greater the number of credit card accounts impacted, the more likely it is that our users would be impacted by such a breach. To the extent our users are ever affected by such a breach experienced by us or a third party, affected users would need to be contacted to obtain new credit card information and process any pending transactions. It is likely that we would not be able to reach all affected users, and even if we could, some users' new credit card information may not be obtained and some pending transactions may not be processed, which could materially adversely affect our business, financial condition and results of operations.

We work with our payment service providers to utilize tokenization tools to replace sensitive cardholder information with a stand-in token to help secure individual cardholder bank account details in credit card transactions and to reduce the number of systems that have access to our customers' credit card information. While these tokenization tools can help limit the data security risks associated with credit card transactions, it does not eliminate those risks altogether.

Even if our users are not directly impacted by a given data security breach, they may lose confidence in the ability of service providers to protect their personal information generally, which could cause them to stop using their credit cards online and choose alternative payment methods that are not as convenient for us or restrict our ability to process payments without significant cost or user effort.

Additionally, if we fail to adequately prevent fraudulent credit card transactions, we may face litigation, fines, governmental enforcement action, civil liability, diminished public perception of our security measures, significantly higher credit card-related costs and substantial remediation costs, or refusal by credit card processors to continue to process payments on our behalf, any of which could materially adversely affect our business, financial condition and results of operations.

Finally, the passage or adoption of any legislation or regulation affecting the ability of service providers to periodically charge consumers for, among other things, recurring subscription payments may materially adversely affect our business, financial condition and results of operations. For example, under the Payment Services Regulation 2017, banks and other payment services providers are expected to develop and implement

by September 14, 2021 strong customer authentication to check that the person requesting access to an account or trying to make a payment is permitted to do so. This could materially adversely affect our payment authorization rate and user journey. Legislation or regulation regarding the foregoing, or changes to existing legislation or regulation governing subscription payments, are being considered in many states in the US. While we monitor and attempt to comply with these legal developments, we have been in the past, and may be in the future, subject to claims under such legislation or regulation.

Our success depends, in part, on the integrity of our information technology systems and infrastructures and on our ability to enhance, expand and adapt these systems and infrastructures in a timely and cost-effective manner.

In order for us to succeed, our information technology systems and infrastructures must perform well on a consistent basis. Our products and systems rely on software and hardware that are highly technical and complex, and depend on the ability of such software and hardware to store, retrieve, process and manage immense amounts of data. We have in the past experienced, and we may from time to time in the future experience, system interruptions that make some or all of our systems or data temporarily unavailable and prevent our products from functioning properly for our users; any such interruption could arise for any number of reasons, including software bugs and human errors. Further, our systems and infrastructures are vulnerable to damage from fire, power loss, hardware and operating software errors, cyber-attacks, technical limitations, telecommunications failures, acts of God and similar events. While we have backup systems in place for certain aspects of our operations, not all of our systems and infrastructures are fully redundant. We do not have a formal disaster recovery plan, and system backups do not account for all possible eventualities and our property and business interruption insurance coverage may not be adequate to compensate us fully for any losses that we may suffer. Any interruptions or outages, regardless of the cause, could negatively impact our users' experiences with our products, tarnish our brands' reputations and decrease demand for our products, any or all of which could materially adversely affect our business, financial condition and results of operations. Moreover, even if detected, the resolution of such interruptions may take a long time, during which customers may not be able to access, or may have limited access to, the service. See "—Security breaches, improper access to or disclosure of our data or user data, other hacking and phishing attacks on our systems, or other cyber incidents could compromise sensitive information related to our business and/or personal data processed by us or on our behalf and expose us to liability, which could harm our reputation and materially adversely affect our business."

We also continually work to expand and enhance the efficiency and scalability of our technology and network systems to improve the experience of our users, accommodate substantial increases in the volume of traffic to our various products, ensure acceptable load times for our products and keep up with changes in technology and user preferences. Any failure to do so in a timely and cost-effective manner could materially adversely affect our users' experience with our various products and thereby negatively impact the demand for our products, and could increase our costs, either of which could materially adversely affect our business, financial condition and results of operations.

We may experience operational and financial risks in connection with acquisitions.

We may seek potential acquisition candidates to add complementary companies, products or technologies. The identification of suitable acquisition candidates can be difficult, time-consuming and costly, and we may not be able to successfully complete identified acquisitions. We may experience operational and financial risks in connection with historical and future acquisitions if we are unable to:

•properly value prospective acquisitions, especially those with limited operating histories;

•accurately review acquisition candidates' business practices against applicable laws and regulations and, where applicable, implement proper remediation controls, procedures, and policies;

•successfully integrate the operations, as well as the accounting, financial controls, management information, technology, human resources and other administrative systems, of acquired businesses with our existing operations and systems;

•overcome cultural challenges associated with integrating employees from the acquired company into our organization;

•successfully identify and realize potential synergies among acquired and existing businesses;

•fully identify potential risks and liabilities associated with acquired businesses, including intellectual property infringement claims, violations of laws, commercial disputes, tax liabilities, litigation or other claims in connection with the acquired company, including claims from terminated employees, former stockholders or other third parties, and other known and unknown liabilities;

•retain or hire senior management and other key personnel at acquired businesses; and •successfully manage acquisition-related strain on our management, operations and financial resources and those of the various brands in our portfolio Furthermore, we may not be successful in addressing other challenges encountered in connection with our acquisitions. The anticipated benefits of one or more of our acquisitions may not be realized or the value of goodwill and other intangible assets acquired could be impacted by one or more continuing unfavorable events or trends, which could result in significant impairment charges. The occurrence of any of these events could have a material adverse effect on our business, financial condition and results of operations.

Additionally, the integration of acquisitions requires significant time and resources, and we may not manage these processes successfully. Our ability to successfully integrate complex acquisitions is unproven, particularly with respect to companies that have significant operations or that develop products with which we do not have prior experience. We may make substantial investments of resources to support our acquisitions,

which would result in significant ongoing operating expenses and may divert resources and management attention from other areas of our business. We cannot assure you that these investments will be successful. If we fail to successfully integrate the companies we acquire, we may not realize the benefits expected from the transactions and our business may be harmed.

Foreign currency exchange rate fluctuations could adversely affect our results of operations.

Our functional currency is the US dollar, our operating expenses are denominated in the currencies of the countries in which our operations are located, which are primarily in the United States and China. Our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. In addition, certain of our payment providers translate our payments from local currency into USD at time of settlement, which means that during periods of a strengthening US dollar, our international receipts could be reduced. In addition, as foreign currency exchange rates fluctuate, the translation of our international receipts into US dollars affects the period-over-period comparability of our operating results and can result in foreign currency exchange gains and losses. We have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments, although we may choose to do so in the future. The use of such hedging activities may not offset any or more than a portion of the adverse financial effects of unfavorable movements in foreign exchange rates and may introduce additional risks if we are unable to structure effective hedges with such instruments.

The estimates of market opportunity and forecasts of market growth included in this prospectus may prove to be inaccurate, and even if the market in which we compete achieves the forecasted growth, our business could fail to grow at similar rates, if at all.

Market opportunity estimates and expectations about market growth included in this prospectus are subject to significant uncertainty and are based on assumptions and estimates that may not prove to be accurate. Even if the markets in which we compete meet the size estimates and growth expectations included in this prospectus, our business could fail to grow for a variety of reasons, which could adversely affect our results of operations.

If our estimates or judgments relating to our critical accounting policies are based on assumptions that change or prove to be incorrect, our operating results could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

The preparation of financial statements in conformity with generally accepted accounting principles in the United States requires us to make estimates and assumptions that affect the reported amount of assets and liabilities and the disclosure of contingent liabilities as of the date of the financial statements and the reported amount of revenues and expenses during the reporting period. We base estimates and assumptions on historical experience and on various other factors that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets, liabilities, equity, revenue and expenses that are not readily apparent from other sources. We may make estimates regarding activities for which the accounting treatment is still uncertain. Actual results could differ from those estimates. If our assumptions change or if actual circumstances differ from our assumptions, our operating results may be adversely affected and could fall below our publicly announced guidance or the expectations of securities analysts and investors, resulting in a decline in the market price of our common stock.

Risks Related to Legal and Regulatory Compliance

Our business is subject to complex and evolving US and international laws and regulations. Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business.

We are subject to a variety of laws and regulations in the United States and abroad that involve matters that are important to or may otherwise impact our business, including, among others, broadband internet access, online commerce, advertising, user privacy, data protection, intermediary liability, protection of minors, consumer protection, accessibility, immigration and university admissions, taxation and securities law compliance. The introduction of new products, expansion of our activities in certain jurisdictions, or other actions that we may take may subject us to additional laws, regulations or other government scrutiny. In addition, foreign laws and regulations can impose different obligations or be more restrictive than those in the United States.

These US federal, state, and municipal and foreign laws and regulations, which in some cases can be enforced by private parties in addition to government entities, are constantly evolving and can be subject to significant change.

In addition, the introduction of new brands and products, or changes to our existing brand and products, may result in new or enhanced governmental or regulatory scrutiny. As a result, the application, interpretation, and enforcement of these laws and regulations are often uncertain, particularly in the new and rapidly-evolving industry in which we operate, and may be interpreted and applied inconsistently from state to state and country to country and inconsistently with our current policies and practices. These laws and regulations, as well as any associated inquiries or investigations or any other government actions, may be costly to comply with and may delay or impede the development of new products, require that we change or cease certain business practices, result in negative publicity, increase our operating costs, require significant management time and attention, and subject us to remedies that may harm our business, including fines, demands or orders that require us to

modify or cease existing business practices. For example, a variety of laws and regulations govern the ability of users to cancel subscriptions and auto-payment renewals. We have in the past and may in the future be subject to claims under such laws and regulations that could materially adversely affect our business.

The promulgation of new laws or regulations, or the new interpretation of existing laws and regulations, in each case, that restrict or otherwise unfavorably impact our business, or our ability to provide or the manner in which we provide our services, could require us to change certain aspects of our business and operations to ensure compliance, which could decrease demand for services, reduce revenues, increase costs and subject us to additional liabilities.

The adoption of any laws or regulations that adversely affect the popularity or growth in use of the internet or our services, including laws or regulations that undermine open and neutrally administered internet access, could decrease user demand for our service offerings and increase our cost of doing business, any of which could have a material adverse effect on our business, financial condition and results of operations.

We may be exposed to liabilities under the US Foreign Corrupt Practices Act and other US and foreign anti-corruption anti-money laundering, export control, sanctions and other trade laws and regulations, and any determination that we violated these laws could have a material adverse effect on our business.

We are subject to rules and regulations of the United States and abroad relating to export controls and economic sanctions, including, but not limited to, trade sanctions administered by the Office of Foreign Assets Control within the US Department of the Treasury, as well as the Export Administration Regulations administered by the Department of Commerce. These regulations limit our ability to market, sell, distribute or otherwise transfer our products or technology to prohibited countries or persons.

Further, we have historically provided services to users in Iran, Cuba and Syria, countries that are presently the subject of comprehensive sanctions by the US government (Sanctioned Countries). We believe our provision of such services is either in compliance with generally available exemptions from sanctions laws or otherwise in compliance with applicable law, and have implemented various control mechanisms designed to prevent unauthorized dealings with Sanctioned Countries.

While we have taken steps to comply with these rules and regulations, a determination that we have failed to comply, whether knowingly or inadvertently, may result in substantial penalties, including fines, enforcement actions, civil and/or criminal sanctions, the disgorgement of profits, and may materially adversely affect our business, results of operations and financial condition.

Our success depends, in part, on our ability to access, collect, and use personal data about our users and payers, and to comply with applicable data privacy laws.

Increased regulation of data utilization practices, including self-regulation, new laws, or findings or guidance under existing laws that limit our ability to collect, disclose, process, transfer, retain and use information and other data, could have a material adverse effect on our business. In addition, if we were to disclose information and other data about our users in a manner that was objectionable to them, our business reputation could be materially adversely affected, and we could face potential legal claims that could impact our operating results. Internationally, we may become subject to additional and/or more stringent legal obligations concerning our treatment of customer and other personal information, such as laws regarding data localization and/or restrictions on data export. For example, in July 2020 the Court of Justice of the European Union (CJEU) invalidated the EU-US Privacy Shield Framework (Privacy Shield) under which personal data could be transferred from the European Economic Area (EEA) and the United Kingdom to entities in the United States who had self-certified under the Privacy Shield scheme. This has led to uncertainty about the adequate transfer mechanisms for other personal data transfers from the EEA and the United Kingdom to the United States or interruption of such transfers. In the event that any court of law orders the suspension of personal data transfers to or from a particular jurisdiction this could give rise to operational interruption in the performance of services for customers, greater costs to implement alternative data transfer mechanisms that are still permitted, regulatory liabilities or reputational harm. Failure to comply with evolving privacy laws could subject us to liability and expose us to fines, penalties and compliance orders, and to the extent that we need to alter our business model or practices to adapt to these obligations, we could incur additional expenses, which may in turn materially adversely affect our business, financial condition, and results of operations. See "–The varying and rapidly-evolving regulatory framework on privacy and data protection across jurisdictions could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business."

Additionally, privacy activist groups have previously and may continue to provide resources to support individuals who wish to pursue privacy claims or put pressure on companies to change data processing practices. High-profile brands such as ours risk being targeted by such groups and there is a risk that if a user became disgruntled with our data processing practices they could leverage support from such privacy activist groups to take legal action, initiate regulatory investigation or gain publicity for their cause. There is a risk that these groups will seek to challenge our practices, particularly in relation to targeted advertising or international data transfers. Any such campaign could require significant resources to mount a response and could lead to negative publicity and potential investigation from regulators, any of which may materially adversely affect our business, financial condition, and results of operations.

The varying and rapidly-evolving regulatory framework on privacy and data protection across jurisdictions could result in claims, changes to our business practices, monetary penalties, increased cost of operations, or declines in user growth or engagement, or otherwise harm our business.

As discussed above, we process personal information, personal data and other regulated information both from our employees and our users. There are numerous laws in the countries in which we operate regarding privacy and the storage, sharing, use, transfer, disclosure, protection and otherwise processing of this kind of information, the scope of which are constantly changing, and in some cases, inconsistent and conflicting and subject to differing interpretations, as new laws of this nature are proposed and adopted and we currently, and from time to time, may not be in technical compliance with all such laws. Such laws also are becoming increasingly rigorous and could be interpreted and applied in ways that may have a material adverse effect on our business, financial condition, results of operations and prospects. Therefore, enforcement practices are likely to remain uncertain for the foreseeable future. In recent years, there has been an increase in attention to and regulations of data protection and data privacy across the globe, including in the United States, the EEA and the United Kingdom. We are subject to various data protection laws, including: the General Data Protection Regulation 2016/679 (GDPR) in the EEA, the United Kingdom data protection regime consisting primarily of (i) the UK General Data Protection Regulation and (ii) the UK Data Protection Act 2018 (collectively (i) and (ii), the UK GDPR), the California Consumer Privacy Act (CCPA) in the United States, and the Brazilian General Data Protection Law, which imposes requirements similar to the GDPR on products and services offered to users in Brazil. We may be subject to additional privacy regulations in the future, including the Virginia Consumer Data Protection Act (VCDPA). Other comprehensive data privacy or data protection laws or regulations have been passed or are under consideration in other jurisdictions, including China, India and Japan. Laws such as these give rise to an increasingly complex set of compliance obligations on us, as well as on many of our service providers. These laws impose restrictions on our ability to gather personal data, provide individuals with the ability to opt out of personal data collection, impose obligations on our ability to share data with others, and potentially subject us to fines, lawsuits, and regulatory scrutiny.

For example, the GDPR and the UK GDPR impose strict data protection compliance requirements including: providing detailed disclosures about how personal data is collected and processed (in a concise, intelligible and easily-accessible form); demonstrating that an appropriate legal basis is in place or otherwise exists to justify data processing activities; granting new rights for data subjects in regard to their personal data (including the right to be "forgotten" and the right to data portability), as well as enhancing current rights (e.g., data subject access requests); introducing the obligation to notify data protection regulators or supervisory authorities (and in certain cases, affected individuals) of significant data breaches; defining pseudonymized (i.e., key-coded) data; imposing limitations on retention of personal data; maintaining a record of processing activities; and complying with the principle of accountability and the obligation to demonstrate compliance through policies, procedures, training and audit. The GDPR and the UK GDPR create compliance obligations that are also applicable to entities established outside the EEA/United Kingdom, which offer goods or services to individuals located in the EEA/United Kingdom or which observe the behavior of individuals located in the EEA/United Kingdom. This has created a greater compliance burden for us and other companies with users in the EEA and the United Kingdom, as the legal regimes may subject non-compliant entities to substantial monetary penalties. In particular, fines for the most serious violations under the GDPR and the UK GDPR may amount to the greater of €20 million/£17.5 million or, in the case of an undertaking, up to 4% of the total worldwide annual group turnover of the preceding financial year. In addition to potential substantial fines, non-compliance could result in regulatory investigations, reputational damage, orders to cease/ change the processing of personal data, enforcement notices, and/ or assessment notices (for a compulsory audit). We may also face civil claims including representative actions and other class action type litigation (where individuals have suffered harm), potentially amounting to significant compensation or damages liabilities, as well as associated costs, diversion of internal resources, and reputational harm.

As noted above, the CJEU invalidated the Privacy Shield on July 16, 2020 and, while it upheld the adequacy of the EU standard contractual clauses (a standard form of contract approved by the European Commission (SCCs) as an adequate transfer mechanism for personal data, and potential alternative to the Privacy Shield), it made clear that reliance on them alone may not necessarily be sufficient in all circumstances. Use of the SCCs must be assessed on a case-by-case basis taking into account the legal regime applicable in the destination country, in particular surveillance laws and the rights of individuals and additional measures and/or contractual provisions may need to be adopted, however, the nature of these additional measures is currently uncertain. The CJEU went on to state that, if the competent supervisory authority believes that the SCCs cannot be complied with in the destination country and the required level of protection cannot be secured by other means, such supervisory authority is under an obligation to suspend or prohibit that transfer unless the data exporter has already done so itself. We rely on a mixture of mechanisms to transfer personal data from the EEA and the United Kingdom to the United States and are evaluating what additional mechanisms may be required to establish adequate safeguards for personal data. As supervisory authorities continue to issue further guidance on personal data export mechanisms, including circumstances where the SCCs cannot be used and/or start taking enforcement action, there will be uncertainty as to how we comply with EEA and United Kingdom privacy laws and we could suffer additional costs, complaints, and/or regulatory investigations or fines. Moreover, if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, and we may find it necessary to establish systems in the EEA and the United Kingdom to maintain personal data originating from the EEA and the United Kingdom, which may involve substantial expense and distraction from other aspects of our business.

We are also subject to evolving privacy laws in the EEA and the United Kingdom on cookies and e-marketing. Regulators are increasingly focusing on compliance with requirements in the online behavioral advertising ecosystem, and current national laws that implement the ePrivacy Directive are highly likely to be replaced by an EU regulation known as the ePrivacy Regulation which will significantly increase fines for non-compliance. In the EEA and the United Kingdom, informed consent is required for the placement of non-strictly necessary cookies or similar technologies on users' devices and for direct electronic marketing. The GDPR and the UK GDPR also impose conditions on obtaining valid consent, such as a prohibition on pre-checked consents and a requirement to ensure separate consents are sought for each type of non-strictly necessary cookie or similar technology. While the text of the ePrivacy Regulation is still under development, recent European court decisions and regulators' guidance

are driving increased attention to cookies and tracking technologies. If regulators start to enforce the strict approach in recent guidance, this could lead to substantial costs, require significant systems changes, limit the effectiveness of our marketing activities, divert the attention of our technology personnel, adversely affect our margins, increase costs and subject us to additional liabilities. Regulation of cookies and similar technologies, and any decline of cookies or similar online tracking technologies as a means to identify and potentially target users as well as personalize the consumer experience, may lead to broader restrictions and impairments on our marketing and personalization activities and may negatively impact our efforts to understand and tailor our offerings to users.

Brexit (as defined below) and ongoing developments in the United Kingdom have created additional uncertainty as the United Kingdom may become a "third country" for the purposes of personal data transfers from the EEA to the United Kingdom following the expiration of the four to six-month personal data transfer grace period (from January 1, 2021) set out in the EU and United Kingdom Trade and Cooperation Agreement, unless a relevant adequacy decision is adopted in favor of the United Kingdom (which would allow data transfers without additional measures). These changes may require us to find alternative solutions for the compliant transfer of personal data into the United Kingdom. Additionally, following Brexit, we may be exposed to two parallel enforcement regimes, each of which authorize similar fines and other enforcement actions for certain violations.

We depend on a number of third parties in relation to the operation of our business, a number of which process personal data on our behalf. With each such provider we attempt to mitigate the associated risks of using third parties by performing security assessments and detailed due diligence, entering into contractual arrangements to ensure that providers only process personal data according to our instructions, and that they have sufficient technical and organizational security measures in place. Where we transfer personal data outside the EEA or the United Kingdom to such third parties, we do so while considering the relevant data export requirements, as described above. There is no assurance that these contractual measures and our own privacy and security-related safeguards will protect us from the risks associated with the third-party processing, storage and transmission of such information. Any violation of data or security laws by our third party processors could have a material adverse effect on our business and result in the fines and penalties outlined above.

The GDPR and the UK GDPR will continue to be interpreted by data protection regulators in the EEA and the United Kingdom. This may require us to make changes to our business practices, which could be time-consuming and expensive, and could generate additional risks and liabilities. Other countries have also passed or are considering passing laws requiring local data residency and/or restricting the international transfer of data.

Multiple legislative proposals concerning privacy and the protection of user information are being considered by the US Congress. Various US state legislatures have announced intentions to consider additional privacy legislation, and US state legislatures such as California and Virginia have already passed and enacted comprehensive privacy legislation. For example, among other cases, the CCPA requires covered companies to provide new disclosures to California consumers and provide such consumers certain data protection and privacy rights, including the ability to opt-out of certain sales of personal information. The CCPA provides for civil penalties for violations, as well as a private right of action for certain data breaches. This private right of action may increase the likelihood of, and risks associated with, data breach litigation. A ballot initiative from privacy rights advocates intended to augment and expand the CCPA called the California Privacy Rights Act (CPRA) was passed in November 2020 and will take effect in January 2023 (with a look back to January 2022). The CPRA will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. The VCDPA, which will go into effect in 2023, gives new data protection rights to Virginia residents and imposes additional obligations on controllers and processors of personal data. For example, like the CCPA, the VCDPA grants Virginia residents certain rights to access personal data that is being processed by the controller, the right to correct inaccuracies in that personal data and the right to require that their personal data be deleted by the data controller. In addition, Virginia residents will have the right to request a copy of their personal data in a format that permits them to transmit it to another data controller. Further, under the VCDPA, Virginia residents will have the right to opt out of the sale of their personal data, as well as the right to opt out of the processing of their personal data for targeted advertising. New legislation proposed or enacted in a number of states impose, or have the potential to impose additional obligations on companies that collect, store, use, retain, disclose, transfer and otherwise process confidential, sensitive and personal information, and will continue to shape the data privacy environment nationally. State laws are changing rapidly and there is discussion in Congress of a new federal data protection and privacy law to which we would become subject if it is enacted. Additionally, governmental agencies like the Consumer Financial Protection Bureau and the Federal Trade Commission have adopted, or are considering adopting, laws and regulations concerning personal information and data security. For example, the Federal Trade Commission has increased its focus on privacy and data security practices at digital companies, as evidenced by obtaining increasing fines against companies found to be in violation of the Children's Online Privacy Protection Act (COPPA), and obtaining twenty-year consent decrees mandating enhanced and specific requirements for information security management programs. While the FTC does not have legal authority to seek monetary penalties or relief in the area of data security as a general matter, a violation of a privacy or data security consent decree can subject the responding company to very high monetary penalties, as evidenced by the FTC obtaining $5 billion in negotiated monetary relief against Facebook for violation of a consent decree.

The myriad international and US privacy and data breach laws are not consistent, and compliance in the event of a widespread data breach is difficult and may be costly. In addition to government regulation, privacy advocates and industry groups have and may in the future propose self-regulatory standards from time to time. These and other industry standards may legally or contractually apply to us, or we may elect to comply with such standards. We expect that there will continue to be new proposed laws and regulations concerning data privacy and security, and we cannot yet determine the impact such future laws, regulations and standards may have on our business. Because the interpretation and application

of data protection laws, regulations, standards and other obligations are still uncertain, and may be contradictory and in flux, it is possible that the scope and requirements of these laws may be interpreted and applied in a manner that is inconsistent with our practices and our efforts to comply with the evolving data protection rules may be unsuccessful.

We make public statements about our use and disclosure of personal information through our privacy policy, information provided on our website and press statements. Although we endeavor to ensure that our public statements are complete, accurate and fully implemented, we may at times fail to do so or be alleged to have failed to do so. We may be subject to potential regulatory or other legal action if such policies or statements are found to be deceptive, unfair or misrepresentative of our actual practices. In addition, from time to time, concerns may be expressed about whether our products and services compromise the privacy of our users and others. Any concerns about our data privacy and security practices (even if unfounded), or any failure, real or perceived, by us to comply with our posted privacy policies or with any legal or regulatory requirements, standards, certifications or orders or other privacy or consumer protection-related laws and regulations applicable to us, could cause our users to reduce their use of our products and services.

While we aim to comply with industry standards and applicable laws and industry codes of conduct relating to privacy and data protection in all material respects, there is no assurance that we will not be subject to claims that we have violated applicable laws or codes of conduct, that we will be able to successfully defend against such claims or that we will not be subject to significant fines and penalties in the event of non-compliance. Additionally, to the extent multiple state-level laws are introduced with inconsistent or conflicting standards and there is no federal law to preempt such laws, compliance with such laws could be difficult and costly to achieve and we could be subject to fines and penalties in the event of non-compliance.

Furthermore, enforcement actions and investigations by regulatory authorities related to data security incidents and privacy violations continue to increase. We have in the past received, and may continue to receive inquiries from regulators regarding our data privacy practices. Any failure or perceived failure by us (or the third parties with whom we have contracted to process such information) to comply with applicable privacy and security laws, policies or related contractual obligations, or any compromise of security that results in unauthorized access, use or transmission of, personal user information, could result in a variety of claims against us, including governmental enforcement actions and investigations, class action privacy litigation in certain jurisdictions and proceedings by data protection authorities. We could further be subject to significant fines, other litigation, claims of breach of contract and indemnity by third parties, and adverse publicity. When such events occur, our reputation may be harmed, we may lose current and potential users and the competitive positions of our various brands might be diminished, any or all of which could materially adversely affect our business, financial condition, results of operations and prospects. In addition, if our practices are not consistent or viewed as not consistent with legal and regulatory requirements, including changes in laws, regulations and standards or new interpretations or applications of existing laws, regulations and standards, we may become subject to audits, inquiries, whistleblower complaints, adverse media coverage, investigations, loss of export privileges or severe criminal or civil sanctions, all of which may have a material adverse effect on our business, financial condition, results of operations and prospects.

Online applications are subject to various laws and regulations relating to children's privacy and protection, which if violated, could subject us to an increased risk of litigation and regulatory actions.

A variety of laws and regulations have been adopted in recent years aimed at protecting children using the internet such as the COPPA and Article 8 of the GDPR and the UK GDPR. We implement certain precautions to ensure that we comply. Despite our efforts, no assurances can be given that such measures will be sufficient to completely avoid allegations of COPPA violations, any of which could expose us to significant liability, penalties, reputational harm and loss of revenue, among other things. Additionally, new regulations are being considered in various jurisdictions to require the monitoring of user content or the verification of users' identities and age. Such new regulations, or changes to existing regulations, could increase the cost of our operations.

We are subject to litigation and adverse outcomes in such litigation could have a material adverse effect on our business, financial condition and results of operations.

We are, and from time to time may become, subject to litigation and various legal proceedings, including litigation and proceedings related to intellectual property matters, privacy and consumer protection laws, as well as stockholder derivative suits, class action lawsuits, actions from former employees and other matters, that involve claims for substantial amounts of money or for other relief or that might necessitate changes to our business or operations. The defense of these actions could be time consuming and expensive and could distract our personnel from their normal responsibilities. We evaluate these litigation claims and legal proceedings to assess the likelihood of unfavorable outcomes and to estimate, if possible, the amount of potential losses. Based on these assessments and estimates, we may establish reserves or disclose the relevant litigation claims or legal proceedings, as and when required or appropriate. These assessments and estimates are based on information available to management at the time of such assessment or estimation and involve a significant amount of judgment. As a result, actual outcomes or losses could differ materially from those envisioned by our current assessments and estimates. Our failure to successfully defend or settle any of these litigations or legal proceedings could result in liability that, to the extent not covered by our insurance, could have a material adverse effect on our business, financial condition and results of operations. See "Business—Legal Proceedings".

We are subject to taxation related risks in multiple jurisdictions.

We are a US-based multinational company subject to tax in multiple US and foreign tax jurisdictions. Significant judgment is required in determining our global provision for income taxes, deferred tax assets or liabilities and in evaluating our tax positions on a worldwide basis. While we believe our tax positions are consistent with the tax laws in the jurisdictions in which we conduct our business, it is possible that these positions may be challenged by jurisdictional tax authorities, which may have a significant impact on our global provision for income taxes.

Tax laws are being re-examined and evaluated globally. New laws and interpretations of the law are taken into account for financial statement purposes in the quarter or year that they become applicable. Tax authorities are increasingly scrutinizing the tax positions of companies. Many countries in the European Union, as well as a number of other countries and organizations such as the Organization for Economic Cooperation and Development and the European Commission, are actively considering changes to existing tax laws that, if enacted, could increase our tax obligations in countries where we do business. These proposals include changes to the existing framework to calculate income tax, as well as proposals to change or impose new types of non-income taxes, including taxes based on a percentage of revenue. For example, several countries in the European Union have proposed or enacted taxes applicable to digital services, which includes business activities on social media platforms and online marketplaces, and would likely apply to our business. Many questions remain about the enactment, form and application of these digital services taxes. The interpretation and implementation of the various digital services taxes (especially if there is inconsistency in the application of these taxes across tax jurisdictions) could have a materially adverse impact on our business, results of operations and cash flows. Moreover, if the US or other foreign tax authorities change applicable tax laws, our overall taxes could increase, and our business, financial condition or results of operations may be adversely impacted.

The United Kingdom's withdrawal from the European Union may have a negative effect on global economic conditions, financial markets and our business.

Following a national referendum and enactment of legislation by the government of the United Kingdom, the United Kingdom formally withdrew from the European Union and ratified a trade and cooperation agreement governing its future relationship with the European Union. The agreement, which is being applied provisionally from January 1, 2021 until it is ratified by the European Parliament and the Council of the European Union, addresses trade, economic arrangements, law enforcement, judicial cooperation and a governance framework including procedures for dispute resolution, among other things. Because the agreement merely sets forth a framework in many respects and will require complex additional bilateral negotiations between the United Kingdom and the European Union as both parties continue to work on the rules for implementation, significant political and economic uncertainty remains about how the precise terms of the relationship between the parties will differ from the terms before withdrawal.

We have users in the United Kingdom and the European Union and, as a result, we face risks associated with the potential uncertainty and disruptions that may follow Brexit and the implementation and application of the trade and cooperation agreement, including with respect to volatility in exchange rates and interest rates, disruptions to the free movement of data, goods, services, people and capital between the United Kingdom and the European Union and potential material changes to the regulatory regime applicable to our operations in the United Kingdom. The uncertainty concerning the United Kingdom's future legal, political and economic relationship with the European Union could adversely affect political, regulatory, economic or market conditions in the European Union, the United Kingdom and worldwide and could contribute to instability in global political institutions, regulatory agencies and financial markets. These developments have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets and could significantly reduce global market liquidity and limit the ability of key market participants to operate in certain financial markets.

We may also face new regulatory costs and challenges as a result of Brexit that could have a material adverse effect on our operations. For example, as of January 1, 2021, the United Kingdom lost the benefits of global trade agreements negotiated by the European Union on behalf of its members, which may result in increased trade barriers that could make doing business in areas that are subject to such global trade agreements more difficult. In addition, Brexit could lead to legal uncertainty and potentially divergent national laws and regulations as the United Kingdom determines which laws of the European Union to replace or replicate. There may continue to be economic uncertainty surrounding the consequences of Brexit that adversely impact customer confidence resulting in fewer users using or paying for our services, which could materially adversely affect our business, financial condition and results of operations.

The ongoing instability and uncertainty surrounding Brexit and the implementation and application of the Trade and Cooperation Agreement, could require us to restructure our business operations in the United Kingdom and the European Union and could have an adverse impact on our business and staff in the United Kingdom and European Union.

Risks Related to Our Intellectual Property

From time to time, we may be party to intellectual property-related litigation and proceedings that are expensive and time consuming to defend, and, if resolved adversely, could materially adversely impact our business, financial condition and results of operations.

Our commercial success depends in part on avoiding infringement, misappropriation or other violations of the intellectual property rights of third parties. However, we may become party to disputes from time to time over rights and obligations concerning intellectual property held by third parties, and we may not prevail in these disputes. Companies in the internet, technology and social media industries are subject to frequent litigation based on allegations of infringement, misappropriation or other violations of intellectual property rights. Furthermore, various "non-practicing entities" that own patents and other intellectual property rights often attempt to assert claims in order to extract value from technology companies and, given that these patent holding companies or other adverse intellectual property rights holders typically have no relevant product

revenue, our own issued or pending patents and other intellectual property rights may provide little or no deterrence to these rights holders in bringing intellectual property rights claims against us. From time to time we may receive claims from third parties which allege that we have infringed upon their intellectual property rights. Further, from time to time we may introduce new products, product features and services, including in areas where we currently do not have an offering, which could increase our exposure to patent and other intellectual property claims from competitors and non-practicing entities. In addition, some of our agreements with third-party partners require us to indemnify them for certain intellectual property claims against them, which could require us to incur considerable costs in defending such claims, and may require us to pay significant damages in the event of an adverse ruling. Such third-party partners may also discontinue their relationships with us as a result of injunctions or otherwise, which could result in loss of revenue and adversely impact our business operations.

Although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees or consultants have inadvertently or otherwise used or disclosed intellectual property, including trade secrets, software code or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims and if we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Further, while it is our policy to require our employees and contractors who may be involved in the conception or development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops intellectual property that we regard as our own. Additionally, any such assignment of intellectual property rights may not be self-executing, or the assignment agreements may be breached, and we may be forced to bring claims against third parties, or defend claims that they may bring against us, to determine the ownership of what we regard as our intellectual property.

As we face increasing competition and develop new products, we expect the number of patent and other intellectual property claims against us may grow. There may be intellectual property or other rights held by others, including issued or pending patents, that cover significant aspects of our products and services, and we cannot be sure that we are not infringing or violating, and have not infringed or violated, any third-party intellectual property rights or that we will not be held to have done so or be accused of doing so in the future.

Any claim or litigation alleging that we have infringed or otherwise violated intellectual property or other rights of third parties, with or without merit, and whether or not settled out of court or determined in our favor, could be time-consuming and costly to address and resolve, and could divert the time and attention of our management and technical personnel. The outcome of any litigation is inherently uncertain, and there can be no assurances that favorable final outcomes will be obtained in all cases. In addition, third parties may seek, and we may become subject to, preliminary or provisional rulings in the course of any such litigation, including potential preliminary injunctions requiring us to cease some or all of our operations. We may decide to settle such lawsuits and disputes on terms that are unfavorable to us. Similarly, if any litigation to which we are a party is resolved adversely, we may be subject to an unfavorable judgment that may not be reversed upon appeal, including being subject to a permanent injunction and being required to pay substantial monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a party's intellectual property rights. The terms of such a settlement or judgment may require us to cease some or all of our operations, pay substantial amounts to the other party, or admit liability. Moreover, as part of any settlement or other compromise to avoid complex, protracted litigation, we may agree not to pursue future claims against a third party, including for claims related to alleged infringement of our intellectual property rights. Part of any settlement or other compromise with another party may resolve a potentially costly dispute but may also have future repercussions on our ability to defend and protect our intellectual property rights, which in turn could adversely affect our business, financial conditions, and results of operations and prospects. In addition, we may have to seek a license to continue practices found to be in violation of a third-party's rights. If we are required, or choose to enter into royalty or licensing arrangements, such arrangements may not be available on reasonable terms, or at all, and may significantly increase our operating costs and expenses. Such arrangements may also only be available on a non-exclusive basis such that third parties, including our competitors, could have access to the same licensed technology to compete with us. As a result, we may also be required to develop or procure alternative non-infringing technology, which could require significant effort, time and expense or discontinue use of the technology. There also can be no assurance that we would be able to develop or license suitable alternative technology to permit us to continue offering the affected products or services as currently offered. If we cannot develop or license alternative technology for any allegedly infringing aspect of our business, we would be forced to limit our products and services and may be unable to compete effectively. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. Any of the foregoing, and any unfavorable resolution of such disputes and litigation, would materially and adversely impact our business, financial condition, results of operations and prospects.

We may fail to adequately obtain, protect and maintain our intellectual property rights or prevent third parties from making unauthorized use of such rights.

Our intellectual property is a material asset of our business and our success depends in part on our ability to protect our proprietary rights and intellectual property. For example, we rely heavily upon our trademarks, designs, copyrights, related domain names, social media handles and logos to market our brands and to build and maintain brand loyalty and recognition. We also rely upon proprietary technologies and trade secrets, as well as a combination of laws, and contractual restrictions, including confidentiality agreements with employees, customers, suppliers, affiliates and others, to establish, protect and enforce our various intellectual property rights. We have generally registered and continue to apply to register and renew, or secure by contract where appropriate, trademarks and service marks as they are developed and used, and reserve, register and renew domain names and social media handles as we deem appropriate. If our trademarks and trade names are not adequately protected, then we may

not be able to build and maintain name recognition in our markets of interest and our business may be adversely affected. Effective trademark protection may not be available or may not be sought in every country in which our products are made available, in every class of goods and services in which we operate, and contractual disputes may affect the use of marks governed by private contract. Our registered or unregistered trademarks, tradenames or other intellectual property rights may be challenged, infringed, circumvented or declared generic or determined to be infringing on other marks. Further, at times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. Similarly, not every variation of a domain name or social media handle may be available or be registered by us, even if available. The occurrence of any of these events could result in the erosion of our brands and limit our ability to market our brands using our various domain names and social media handles, as well as impede our ability to effectively compete against competitors with similar technologies or products, any of which could materially adversely affect our business, financial condition and results of operations. We are also party to certain agreements that may limit our trademark rights in certain jurisdictions; while we believe these agreements are unlikely to have a significant impact on our business as currently conducted, our ability to use our existing trademarks in new business lines in the future may be limited.

We cannot guarantee that our efforts to obtain and maintain intellectual property rights are adequate, that we have secured, or will be able to secure, appropriate permissions or protections for all of the intellectual property rights we use or rely on. Furthermore, even if we are able to obtain intellectual property rights, any challenge to our intellectual property rights could result in them being narrowed in scope or declared invalid or unenforceable. In addition, other parties may also independently develop technologies that are substantially similar or superior to ours and we may not be able to stop such parties from using such independently developed technologies from competing with us.

We also rely upon unpatented proprietary information and other trade secrets to protect intellectual property that may not be registrable, or that we believe is best protected by means that do not require public disclosure. While it is our policy to enter into confidentiality agreements with employees and third parties to protect our proprietary expertise and other trade secrets, we cannot guarantee that we have entered into such agreements with each party that has or may have had access to our proprietary information or trade secrets and, even if entered into, these agreements may otherwise fail to effectively prevent disclosure of proprietary information, may be limited as to their term and may not provide an adequate remedy in the event of unauthorized disclosure or use of proprietary information. Monitoring unauthorized uses and disclosures is difficult, and we do not know whether the steps we have taken to protect our proprietary technologies will be effective. Enforcing a claim that a party illegally disclosed or misappropriated a trade secret can be difficult, expensive and time-consuming, and the outcome is unpredictable. Some courts inside and outside the United States may be less willing or unwilling to protect trade secrets. In addition, trade secrets may be independently developed by others in a manner that could prevent legal recourse by us. If any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or misappropriated, or if any such information was independently developed by a competitor, our competitive position would be materially adversely harmed.

Our intellectual property rights and the enforcement or defense of such rights may be affected by developments or uncertainty in laws and regulations relating to intellectual property rights. Moreover, many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, may not favor the enforcement of trademarks, copyrights, trade secrets and other intellectual property protection, which could make it difficult for us to stop the infringement, misappropriation or other violation of our intellectual property or marketing of competing products in violation of our intellectual property rights generally.

We also may be forced to bring claims against third parties to determine the ownership of what we regard as our intellectual property or to enforce our intellectual property rights against infringement, misappropriation or other violations by third parties. However, the measures we take to protect our intellectual property from unauthorized use by others may not be effective and there can be no assurance that our intellectual property rights will be sufficient to protect against others offering products or services that are substantially similar or superior to ours or that compete with our business. We may not prevail in any intellectual property-related proceedings that we initiate against third parties. Further, in such proceedings or in proceedings before patent, trademark and copyright agencies, our asserted intellectual property could be found to be invalid or unenforceable, in which case we could lose valuable intellectual property rights. In addition, even if we are successful in enforcing our intellectual property against third parties, the damages or other remedies awarded, if any, may not be commercially meaningful. Regardless of whether any such proceedings are resolved in our favor, such proceedings could cause us to incur significant expenses and could distract our personnel from their normal responsibilities. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Despite the measures we take to protect our intellectual property rights, our intellectual property rights may still not be adequate and protected in a meaningful manner, challenges to contractual rights could arise, third parties could copy or otherwise obtain and use our intellectual property without authorization, or laws and interpretations of laws regarding the enforceability of existing intellectual property rights may change over time in a manner that provides less protection. The occurrence of any of these events could impede our ability to effectively compete against competitors with similar technologies, any of which could materially adversely affect our business, financial condition and results of operations.

Our use of “open source” software and materials could subject our proprietary software to general release, adversely affect our ability to sell our products and services and subject us to possible litigation.

We use open source software, content and materials (Open Source Materials) in connection with a portion of our proprietary software and our service offerings and we expect to continue to use Open Source Materials in the future. Under certain circumstances, some open source licenses require users of the Open Source Materials to provide the user's own proprietary source code to third parties upon request, to license the user's own proprietary source code or other materials for the purpose of making derivative works, prohibit users from charging a fee to third parties in connection with the use of the user's proprietary code, or require the relicensing of the Open Source Materials and derivatives thereof under the terms of the applicable license. While we employ practices designed to monitor our compliance with the licenses of third-party Open Source Materials and protect our proprietary source code and content, we cannot guarantee that we will be successful, that all Open Source Materials are reviewed prior to use in our products, that our developers have not incorporated Open Source Materials into our products, or that they will not do so in the future. Accordingly, we may face claims from others challenging our use of Open Source Materials or , seeking to enforce the license terms applicable to such Open Source Materials, including by demanding public release of the Open Source Materials or derivative works or our proprietary source code and content that was developed or distributed in connection with such Open Source Materials. Such claims could also require us to purchase a commercial license or require us to devote additional research and development resources to change our software and content, any of which would have a negative effect on our business and results of operations. In addition, if the license terms for the open source code change, we may be forced to re-engineer our software, revise our content or otherwise incur additional costs. Additionally, the terms of many open source licenses to which we are subject have not been interpreted by US or foreign courts. There is a risk that open source licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to market or provide our products.

In addition, the use of open source software may entail greater risks than the use of third-party commercial software, as open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. To the extent that our platform depends upon the successful operation of the open source software we use, any undetected errors or defects in this open source software could prevent the deployment or impair the functionality of our platform, delay the introduction of new solutions, result in a failure of our platform, and injure our reputation. For example, undetected errors or defects in open source software could render it vulnerable to breaches or security attacks and make our systems more vulnerable to data breaches.

Our exposure to these risks may be increased as a result of evolving our core source code base, introducing new content and offerings, integrating acquired-company technologies, or making other business changes, including in areas where we do not currently compete. Any of the foregoing could adversely impact the value or enforceability of our intellectual property, and materially adversely affect our business, results of operations, and financial condition.

Risks Related to this Offering and Ownership of our Class A Common Stock

There has been no prior market for our Class A common stock and an active trading market for our Class A common stock may never develop or be sustained, which may cause shares of our Class A common stock to trade at a discount from their initial offering price and make it difficult to sell the shares of Class A common stock you purchase.

Prior to this offering, there has not been a public trading market for shares of our Class A common stock. The initial public offering price per share of Class A common stock will be determined by agreement among us, the selling stockholders and the representative of the underwriters, and may not be indicative of the price at which shares of our Class A common stock will trade in the public market after this offering. If you purchase shares of our Class A common stock, you may not be able to resell those shares at or above the initial public offering price. We cannot predict the extent to which investor interest in our company will lead to the development of an active trading market on the Nasdaq Global Select Market or how liquid that market might become. An active public market for our Class A common stock may not develop or be sustained after the offering. If an active public market does not develop or is not sustained, it may be difficult for you to sell your shares of Class A common stock at a price that is attractive to you, or at all. The market price of our Class A common stock may decline below the initial public offering price.

In addition, we currently anticipate that up to % of the shares of Class A common stock offered hereby will, at our request, be offered to retail investors through Robinhood Financial, LLC, as a selling group member, via its online brokerage platform. There may be risks associated with the use of the Robinhood platform that we cannot foresee, including risks related to the technology and operation of the platform, and the publicity and the use of social media by users of the platform that we cannot control.

The market price of shares of our Class A common stock may be volatile or may decline regardless of our operating performance, which could cause the value of your investment to decline.

Even if a trading market develops, the market price of our Class A common stock may be highly volatile and could be subject to wide fluctuations. Securities markets worldwide experience significant price and volume fluctuations. This market volatility, as well as general economic, market or political conditions, could reduce the market price of shares of our Class A common stock regardless of our operating performance. In addition, our operating results could be below the expectations of public market analysts and investors due to a number of potential factors, including variations in our quarterly operating results or dividends, if any, to stockholders, additions or departures of key management personnel, failure to meet analysts' earnings estimates, publication of research reports about our industry, litigation and government investigations, changes or proposed changes in laws or regulations or differing interpretations or enforcement thereof affecting our business, adverse market reaction to any indebtedness we may incur or securities we may issue in the future, changes in market valuations of similar companies or speculation in the press or investment community, announcements by our competitors of significant contracts, acquisitions, dispositions, strategic partnerships, joint

ventures or capital commitments, adverse publicity about the industries we participate in or individual scandals, and in response the market price of shares of our Class A common stock could decrease significantly. You may be unable to resell your shares of Class A common stock at or above the initial public offering price.

Stock markets and the price of our Class A shares may experience extreme price and volume fluctuations. In the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. This litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

If securities or industry analysts do not publish research or reports about our business, or if they downgrade their recommendations regarding our Class A common stock, our stock price and trading volume could decline.

The trading market for our Class A common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. If any of the analysts who cover us downgrade our Class A common stock or publish inaccurate or unfavorable research about our business, our Class A common stock price may decline. If analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our Class A common stock price or trading volume to decline and our Class A common stock to be less liquid.

The dual class structure of our common stock has the effect of concentrating voting control with those stockholders who held our capital stock prior to the listing of our Class A common stock on the Nasdaq Global Select Market, including our directors, executive officers, and 5% stockholders and their respective affiliates, who held in the aggregate 91.5% of the voting power of our capital stock as of March 31, 2021. This ownership will limit or preclude your ability to influence corporate matters, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval.

Our Class B common stock has 20 votes per share, and our Class A common stock, which is the stock that is being sold in this offering, has one vote per share. As of March 31, 2021, our directors, executive officers, and 5% stockholders and their affiliates held in the aggregate 91.5% of the voting power of our capital stock. Because of the 20-to-one voting ratio between our Class B and Class A common stock, the holders of our Class B common stock collectively could continue to control a significant percentage of the combined voting power of our common stock and therefore be able to control all matters submitted to our stockholders for approval until all outstanding shares of Class A and Class B common stock have converted automatically into shares of a single class of common stock. This concentrated control may limit or preclude your ability to influence corporate matters for the foreseeable future, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that you may believe are in your best interest as one of our stockholders.

In addition, future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions, such as certain transfers effected for estate planning purposes. The conversion of Class B common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those holders of Class B common stock who retain their shares in the long term. As a result, it is possible that one or more of the persons or entities holding our Class B common stock could gain significant voting control as other holders of Class B common stock sell or otherwise convert their shares into Class A common stock.

In addition, while we do not expect to issue any additional shares of Class B common stock following this offering, any future issuances of Class B common stock would be dilutive to holders of Class A common stock.

We cannot predict the impact our dual class structure may have on the market price of our Class A common stock.

We cannot predict whether our dual class structure will result in a lower or more volatile market price of our Class A common stock, in adverse publicity or other adverse consequences. Certain index providers have announced restrictions on including companies with multiple class share structures in certain of their indices. For example, S&P Dow Jones has stated that companies with multiple share classes will not be eligible for inclusion in the S&P Composite 1500 (composed of the S&P 500, S&P MidCap 400 and S&P SmallCap 600), although existing index constituents in July 2017 were grandfathered. Under the announced policies, our dual class capital structure would make us ineligible for inclusion in any of these indices. Given the sustained flow of investment funds into passive strategies that seek to track certain indices, exclusion from stock indices would likely preclude investment by many of these funds and could make our Class A common stock less attractive to other investors. As a result, the market price of our Class A common stock could be materially adversely affected.

Our management has broad discretion in the use of the net proceeds from this offering and may not use the net proceeds effectively.

Our management will have broad discretion in the application of the net proceeds of this offering, which may include working capital, operating expenses, and capital expenditures. We may also use a portion of the net proceeds to acquire or make investments in businesses, products, offerings, and technologies, although we do not have agreements or commitments for any material acquisitions or investments at this time. We cannot specify with certainty the uses to which we will apply these net proceeds. We may also spend or invest these proceeds in a way with which

our stockholders disagree. The failure by our management to apply these funds effectively could adversely affect our ability to pursue our growth strategies and expand our business. Pending their use, the net proceeds from our initial public offering may be invested in a way that does not produce income or that loses value.

Investors in this offering will suffer immediate and substantial dilution.

The initial public offering price per share of Class A common stock will be substantially higher than our pro forma net tangible book value per share immediately after this offering. As a result, you will incur immediate and substantial dilution in net tangible book value when you buy our Class A common stock in this offering. This means that you will pay a higher price per share than the amount of our total tangible assets, less our total liabilities, divided by the number of shares of all of our common stock outstanding. In addition, you may also experience additional dilution if options or other rights to purchase our common stock that are outstanding or that we may issue in the future are exercised or converted or we issue additional shares of our common stock at prices lower than our net tangible book value at such time. See the section entitled "Dilution."

Future sales and issuances of our Class A common stock or rights to purchase our Class A common stock, including pursuant to our equity incentive plans, or other equity securities or securities convertible into our Class A common stock, could result in additional dilution of the percentage ownership of our stockholders and could cause the stock price of our Class A common stock to decline.

We may issue additional securities following the closing of this offering. In the future, we may sell Class A common stock, convertible securities, or other equity securities, including preferred securities, in one or more transactions at prices and in a manner we determine from time to time. We also expect to issue Class A common stock to employees, consultants, and directors pursuant to our equity incentive plans. If we sell Class A common stock, convertible securities, or other equity securities in subsequent transactions, or Class A common stock or Class B common stock is issued pursuant to equity incentive plans, investors may be materially diluted. New investors in subsequent transactions could gain rights, preferences, and privileges senior to those of holders of our Class A common stock.

We may issue preferred stock whose terms could materially adversely affect the voting power or value of our Class A common stock.

Our amended and restated certificate of incorporation will authorize us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designations, preferences, limitations and relative rights, including preferences over our Class A common stock respecting dividends and distributions, as our board of directors may determine. The terms of one or more classes or series of preferred stock could adversely impact the voting power or value of our Class A common stock. For example, we might grant holders of preferred stock the right to elect some number of our directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we might assign to holders of preferred stock could affect the residual value of the Class A common stock.

A significant portion of our total outstanding shares are restricted from immediate resale but may be sold into the market in the near future. Future sales of our common stock in the public market could cause the market price of our common stock to drop significantly, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market after this offering, or the perception that these sales might occur in large quantities, could cause the market price of our Class A common stock to decline and could impair our ability to raise capital through the sale of additional equity securities. Upon the closing of this offering, based on the number of shares outstanding as of March 31, 2021, we will have shares of Class A common stock outstanding and shares of Class B common stock outstanding.

We and our officers and directors and the holders of substantially all of our shares of capital stock, including the selling stockholders, have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their Class A common stock or securities convertible into or exchangeable for shares of Class A common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus (the "lock-up period"), except with the prior written consent of Goldman Sachs & Co. LLC. Notwithstanding the foregoing, certain shares may automatically be released during the lock-up period pursuant to certain conditions being met. See "Shares Eligible for Future Sale" for a discussion of certain early release and other exceptions to transfer restrictions that would allow for sales during the lock-up period.

All of the Class A common stock sold in this offering will be freely tradable without restrictions or further registration under the Securities Act of 1933, as amended, or the Securities Act, except for any shares held by our affiliates as defined in Rule 144 under the Securities Act (Rule 144). See the section titled "Shares Eligible for Future Sale" for additional information regarding shares of our Class A common stock that will be eligible for resale after this offering.

Moreover, following this offering, the holders of up to 19,074,276 shares of our Class B common stock will have rights, subject to some conditions, to require us to file registration statements for the public resale of the Class A common stock issuable upon conversion of such shares or to include such shares in registration statements that we may file for us or other stockholders, as described in the section of this prospectus entitled "Description of Capital Stock—Registration Rights." Any registration statement we file to register additional shares, whether as a result of registration rights or otherwise, could cause the market price of our Class A common stock to decline or be volatile.

Further, as of March 31, 2021, we had options outstanding that, if fully exercised, would result in the issuance of 6,736,002 shares of Class A common stock and 1,034,500 shares of Class B common stock, as well as 41,917 shares of Class A common stock issuable upon vesting and settlement of outstanding RSUs. After March 31, 2021, we issued additional options exercisable for 71,700 shares of Class A common stock and

additional RSUs representing the right to receive an aggregate of 552,788 shares of Class A common stock upon vesting. We intend to file a registration statement on Form S-8 under the Securities Act to register the shares of our common stock subject to outstanding stock options and RSUs as of the date of this prospectus and shares that will be issuable pursuant to future awards granted under our equity incentive plan. Once we register these shares, they can be freely sold in the public market upon issuance, subject to applicable vesting requirements, compliance by affiliates with Rule 144, the market stand-off provisions and lock-up agreements described in the section of this prospectus entitled "Underwriting," and other restrictions provided under the terms of the applicable plan and/or the award agreements entered into with participants.

We may issue our shares of common stock or securities convertible into our common stock from time to time in connection with financings, acquisitions, investments, or otherwise. Any such issuance could result in substantial dilution to our existing stockholders and cause the trading price of our Class A common stock to decline.

We do not intend to pay dividends for the foreseeable future. Consequently, any gains from an investment in our Class A common stock will likely depend on whether the price of our Class A common stock increases.

We have only paid one dividend in our history and do not intend to pay any dividends on our Class A common stock in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the operation and growth of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments. For more information, see the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

Anti-takeover provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the completion of this offering, contain and Delaware law contains provisions which could have the effect of rendering more difficult, delaying or preventing an acquisition deemed undesirable by our board of directors. Our corporate governance documents provide for:

•a dual-class structure;

•a classified board of directors with three-year staggered terms, who can only be removed for cause, which may delay the ability of stockholders to change the membership of a majority of our board of directors;

•no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;

•the exclusive right of our board of directors to set the size of the board of directors and to elect a director to fill a vacancy, however occurring, including by an expansion of the board of directors, which prevents stockholders from being able to fill vacancies on our board of directors;

•the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including voting or other rights or preferences, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquiror;

•the ability of our board of directors to alter our amended and restated bylaws without obtaining stockholder approval;

•in addition to our board of director's ability to adopt, amend, or repeal our amended and restated bylaws, our stockholders may adopt, amend, or repeal our amended and restated bylaws only with the affirmative vote of the holders of at least 66 2/3% of the voting power of all our then-outstanding shares of capital stock;

•the required approval of (i) at least 66 2/3% of the voting power of the outstanding shares of capital stock entitled to vote generally in the election of directors, voting together as a single class, to adopt, amend, or repeal certain provisions of our restated certificate of incorporation and (ii) for so long as any shares of Class B common stock are outstanding, the holders of at least 80% of the shares of Class B common stock outstanding at the time of such vote, voting as a separate series, to adopt, amend, or repeal certain provisions of our restated certificate of incorporation;

•the ability of stockholders to act by written consent only as long as holders of our Class B common stock hold at least 50% of the voting power of our capital stock;

•the requirement that a special meeting of stockholders may be called only by an officer of our company pursuant to a resolution adopted by a majority of our board of directors then in office or the chairperson of our board; and •advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the General Corporation Law of the State of Delaware (the Delaware General Corporation Law), which prevents some stockholders holding more than 15% of our outstanding common stock from engaging in certain business combinations without approval of the holders of substantially all of our outstanding common stock.

Any provision of our certificate of incorporation, bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the completion of this offering, provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws to be effective immediately prior to the completion of this offering and our indemnification agreements that we have entered or intend to enter into with our directors and officers provide that:

•we will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful;

•we may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law;

•we are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification;

•the rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons; and •we may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees, and agents.

While we have procured directors' and officers' liability insurance policies, such insurance policies may not be available to us in the future at a reasonable rate, may not cover all potential claims for indemnification, and may not be adequate to indemnify us for all liability that may be imposed.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide for an exclusive forum in the Court of Chancery of the State of Delaware for certain disputes between us and our stockholders, and that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action under the Securities Act, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, or employees arising under the Securities Act. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws precludes stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

We believe these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums and protection against the burdens of multi-forum litigation. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees or stockholders, which may discourage lawsuits with respect to such claims. If a court were to find the choice of forum provision that will be contained in our amended and restated certificate of incorporation or amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, results of operations, and financial condition.

We are an emerging growth company and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies will make our common stock less attractive to investors.

We are an "emerging growth company" as defined in the JOBS Act, and we may take advantage of certain exemptions and relief from various reporting requirements that are applicable to other public companies that are not emerging growth companies. In particular, while we are an emerging growth company, we will not be required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act; we will be exempt from any rules that could be adopted by the Public Company Accounting Oversight Board requiring mandatory audit firm rotations or a supplement to the auditor's report on financial statements; we will be subject to reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements; and we will not be required to hold non-binding advisory votes on executive compensation or stockholder approval of any golden parachute payments not previously approved.

In addition, under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards would otherwise apply to private companies. While we have not historically delayed the adoption of new or revised accounting standards until such time as those standards would apply to private companies, we have elected to take advantage of this extended transition period and, as a result, our operating results and financial statements in the future may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

We may remain an emerging growth company until the earliest of (1) the last day of the fiscal year following the fifth anniversary of the consummation of this offering, (2) the last day of the fiscal year in which we have total annual gross revenue of at least $1.07 billion, (3) the last day of the fiscal year in which we are deemed to be a "large accelerated filer" as defined in Rule 12b-2 under the Exchange Act, which would occur if the market value of our common stock held by non-affiliates exceeded $700.0 million as of the last business day of the second fiscal quarter of such year or (4) the date on which we have issued more than $1.0 billion in non-convertible debt securities during the prior three-year period.

The exact implications of the JOBS Act are subject to interpretation and guidance by the SEC and other regulatory agencies, and we cannot assure you that we will be able to take advantage of all of the benefits of the JOBS Act. In addition, investors may find our common stock less attractive to the extent we rely on the exemptions and relief granted by the JOBS Act. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may decline or become more volatile.

General Risk Factors

We will incur significant expenses as a result of being a public company, which could materially adversely affect our business, results of operations, and financial condition.

As a public company, we will incur significant legal, accounting, and other expenses that we have not incurred as a private company. We will be subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the Exchange Act), the applicable requirements of the Sarbanes-Oxley Act, the Dodd-Frank Act, the rules and regulations of the SEC, and the Listing Rules of the Nasdaq Global Select Market. Stockholder activism and the level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional significant compliance costs and impact the manner in which we operate our business in ways we cannot currently anticipate. The increased costs will increase our net loss or decrease our net income, and may require us to reduce costs in other areas of our business or increase our service fees which could result in a reduction in bookings. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, on our board committees, or as executive officers. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to delisting of our Class A common stock, fines, sanctions, and other regulatory action and potentially civil litigation.

Further, the majority of our management team, including our Chief Executive Officer and Chief Financial Officer, have either no or limited experience in managing publicly-traded companies. Our management team may not successfully or efficiently manage our transition to being a public company and the continuous scrutiny of securities analysts and investors. These new obligations and constituents will require significant attention from our senior management and could divert their attention away from the day-to-day management of our business, and could materially adversely affect our business, results of operations, and financial condition.

We have identified a material weakness in our internal control over financial reporting. If we experience material weaknesses in the future or otherwise fail to implement and maintain an effective system of internal controls in the future, we may not be able to accurately report our financial condition or results of operations which may adversely affect investor confidence in us and, as a result, the value of our common stock.

As a result of becoming a public company, we will be required, under Section 404 of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting beginning with our Annual Report on Form 10-K for the year ended December 31, 2022. This assessment will need to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. A material weakness is a deficiency or combination of deficiencies in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual and interim financial statements will not be detected or prevented on a timely basis.

The rules governing the standards that must be met for management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. To comply with the requirements of being a reporting company under the Exchange Act, including performing the evaluation needed to comply with Section 404, we will need to implement additional financial and management controls, reporting systems and procedures and hire additional accounting and finance staff. We may not be able to complete our

evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal controls are effective. The effectiveness of our controls and procedures may be limited by a variety of factors, including:

•faulty human judgment and simple errors, omissions or mistakes;

•fraudulent action of an individual or collusion of two or more people;

•inappropriate management override of procedures; and •the possibility that any enhancements to controls and procedures may still not be adequate to assure timely and accurate financial control.

In fiscal year 2019, we identified a material weakness with our internal control over financial reporting as we had not designed or maintained an effective control environment and associated control activities to meet our accounting and reporting requirements. Specifically we did not have a sufficient complement of personnel with an appropriate degree of internal controls and accounting knowledge, we did not have a sufficiently documented risk assessment process to identify and analyze risks of misstatement due to error and/or fraud and in certain cases we did not have appropriate reviews over journal entries and third party reported information to allow for reliable and timely financial reporting.

During 2020, we established a remediation plan to address our material weakness and we have been actively engaged in the implementation of remediation efforts to address the material weakness. As part of our commitment we have hired a complement of personnel, have established a risk assessment process, established reviews over journal entries and third party reported information and continue to evaluate the additional internal controls we have designed during 2020 and 2021. When we are satisfied these internal controls associated with the material weakness have operated within our business for a sufficient period of time, we will determine if we have remediated our material weakness. We have not been required to provide a management assessment of internal controls under section 404(a) of the Sarbanes-Oxley Act. It is possible that if we had a 404(a) assessment, additional material weaknesses may have been identified. Additionally, our registered independent public accounting firm has not been engaged to perform an audit of our internal controls over financial reporting.

In the future, it is possible that additional material weaknesses or significant deficiencies may be identified that we may be unable to remedy before the requisite deadline for those reports. Our ability to comply with the annual internal control reporting requirements will depend on the effectiveness of our financial reporting and data systems and controls across our company. Any weaknesses or deficiencies or any failure to implement required new or improved controls, or difficulties encountered in the implementation or operation of these controls, could harm our operating results and cause us to fail to meet our financial reporting obligations, or result in material misstatements in our consolidated financial statements, which could adversely affect our business and reduce our stock price.

If we are unable to conclude that our internal control over financial reporting is effective, or if our independent registered public accounting firm determines we have a material weakness in our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could be subject to sanctions or investigations by the SEC or other regulatory authorities. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

When we cease to be an “emerging growth company” as defined under the JOBS Act, our auditors will be required to express an opinion on the effectiveness of our internal controls, unless we are then eligible for any other exemption from such requirement. If we are unable to confirm that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion on the effectiveness of our internal controls, we could lose investor confidence in the accuracy and completeness of our financial reports, which could cause the price of our common stock to decline.

Changes in accounting principles or their application to us could result in unfavorable accounting charges or effects, which could adversely affect our operating results and prospects.

We prepare consolidated financial statements in accordance with accounting principles generally accepted in the United States. The accounting for our business is subject to change based on the evolution of our business model, interpretations of relevant accounting principles, enforcement of existing or new regulations, and changes in policies, rules, regulations, and interpretations, of accounting and financial reporting requirements of the SEC or other regulatory agencies. For example, we make certain assumptions about the interpretation of these principles and accounting treatment of our non-cash stock-based compensation expense and related obligations with respect to our financial statements. If these assumptions turn out to be unfounded, our stock-based compensation expense could be materially higher than expected for current and future periods, which could have a material adverse effect on our net loss. A change in any of these principles or guidance, or in their interpretations or application to us, may have a significant effect on our reported results, as well as our processes and related controls, and may retroactively affect previously reported results, which may negatively impact our financial statements, which may in turn adversely affect our prospects. It is difficult to predict the impact of future changes to accounting principles and accounting policies over financial reporting, any of which could adversely affect our results of operations and financial condition and could require significant investment in systems and personnel.

Special Note Regarding Forward-Looking Statements

This prospectus contains forward-looking statements about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our strategy, future financial condition, future operations, projected costs, prospects, plans, objectives of management, and expected market growth, are forward-looking statements. In some cases, you can identify forward-looking statements because they contain words such as "may," "will," "shall," "should," "expects," "plans," "anticipates," "could," "intends," "target," "projects," "contemplates," "believes," "estimates," "predicts," "potential," "goal," "objective," "seeks," or "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans, or intentions. Forward-looking statements contained in this prospectus include, but are not limited to, statements about:

•our expectations regarding our financial performance;

•our expectations regarding future operating performance;

•the sufficiency of our cash and cash equivalents to meet our liquidity needs;

•our ability to compete in our industry;

•the size of our addressable markets, market share, and market trends, including our ability to grow our business in the countries we have identified as near-term priorities;

•anticipated trends, developments, and challenges in our industry, business, and the highly competitive markets in which we operate;

•our ability to anticipate market needs or develop new or enhanced offerings and services to meet those needs;

•our ability to manage expansion into international markets and new industries;

•our ability to stay in compliance with laws and regulations that currently apply or may become applicable to our business both in the United States and internationally and our expectations regarding various laws and restrictions that relate to our business;

•our ability to effectively manage our growth and expand our infrastructure and maintain our corporate culture;

•our ability to identify, recruit, and retain skilled personnel, including key members of senior management;

•our ability to maintain, protect, and enhance our intellectual property; and •our intended use of the net proceeds from this offering.

We caution you that the foregoing list does not contain all of the forward-looking statements made in this prospectus.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this prospectus primarily on our current expectations, estimates, forecasts, and projections about future events and trends that we believe may affect our business, results of operations, financial condition, and prospects. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we cannot guarantee that the future results, levels of activity, performance, or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties, and other factors described in the section titled "Risk Factors" and elsewhere in this prospectus. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this prospectus. The results, events, and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events, or circumstances could differ materially from those described in the forward-looking statements. You should not place undue reliance on our forward-looking statements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.

The forward-looking statements made in this prospectus relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this prospectus to reflect events or circumstances after the date of this prospectus or to reflect new information or the occurrence of unanticipated events, except as required by law.

You should read this prospectus and the documents that we reference in this prospectus and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in this prospectus by these cautionary statements.

Market and Industry Data

This prospectus contains estimates, projections and other information concerning our industry and our business, as well as data regarding market research, estimates, and forecasts prepared by our management. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in the section titled "Risk Factors." Unless otherwise expressly stated, we obtained this industry, business, market, and other data from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry and general publications, government data, and similar sources. In some cases, we do not expressly refer to the sources from which this data is derived. In that regard, when we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph is derived from sources which we paid for, sponsored, or conducted, unless otherwise expressly stated or the context otherwise requires. While we have compiled, extracted, and reproduced industry data from these sources, we have not independently verified the data. Forecasts and other forward-looking information with respect to industry, business, market, and other data are subject to the same qualifications and additional uncertainties regarding the other forward-looking statements in this prospectus. See "Special Note Regarding Forward-Looking Statements."

Among others, we refer to estimates compiled by the following industry sources:

•Global Web Index, a market research and intelligence company;

•GSV Ventures, a venture capital firm;

•Comscore, a media measurement and analytics company;

•eMarketer (Insider Intelligence Inc.), a market research and intelligence company;

•App Annie Intelligence, a market research and intelligence company;

•GSMA Intelligence (GSMA), an industry organization that represents the interests of mobile network operators worldwide;

•The Harris Poll, a market research and intelligence company;

•HolonIQ, a market research and intelligence company; and •Adjust, a marketing analytics company.

We have not independently verified the market and industry data from these third-party sources and thus the accuracy and completeness of such information cannot be guaranteed.

Use of Proceeds

We estimate that we will receive net proceeds to us from this offering of approximately $ million (or $ million if the underwriters exercise their option to purchase additional shares of Class A common stock in full), based upon an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We will not receive any proceeds from the sale of shares of our Class A common stock by the selling stockholders.

Each $1.00 increase or decrease in the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease the net proceeds to us from this offering by approximately $ million, assuming the number of shares of Class A common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million share increase or decrease in the number of shares of Class A common stock offered by us in this offering would increase or decrease the net proceeds to us from this offering by approximately $ million, assuming that the initial public offering price per share remains at $, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The principal purposes of this offering are to increase our capitalization and financial flexibility and to create a public market for our Class A common stock.

We currently intend to use the net proceeds from this offering for general corporate purposes, including working capital, operating expenses, and capital expenditures. We may also use a portion of the net proceeds to acquire or make investments in businesses, products, offerings, and technologies, although we do not have agreements or commitments for any material acquisitions or investments at this time.

The expected use of net proceeds from this offering represents our intentions based upon our present plans and business conditions. We cannot predict with certainty all of the particular uses for the proceeds of this offering or the amounts that we will actually spend on the uses set forth above. Accordingly, our management will have broad discretion in applying the net proceeds of this offering. The timing and amount of our actual

expenditures will be based on many factors, including cash flows from operations and the anticipated growth of our business. Pending their use, we intend to invest the net proceeds of this offering in a variety of capital-preservation investments, including short- and intermediate-term investments, interest-bearing investments, investment-grade securities, government securities, and money market funds.

Dividend Policy

We have never declared or paid any cash dividends on our common stock, and we do not currently intend to pay any cash dividends on our common stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to support operations and to finance the growth and development of our business. Any future determination related to dividend policy will be made at the discretion of our board of directors, subject to applicable laws and the restrictions set forth in any of our contractual agreements, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. Our future ability to pay cash dividends on our common stock may also be limited by the terms of any future debt or preferred securities we may issue or any future credit facilities we may enter into.

Capitalization

The following table sets forth cash and cash equivalents, as well as our capitalization, as of March 31, 2021 as follows:

•on an actual basis;

•on a pro forma basis, giving effect to (1) the Transactions as if such Transactions had occurred on March 31, 2021, and (2) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware, which will occur immediately prior to the completion of this offering; and •on a pro forma as adjusted basis, giving effect to (1) the pro forma adjustments set forth above and (2) the sale and issuance of shares of our Class A common stock in this offering at an assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

The information below is illustrative only, and our cash and cash equivalents, additional paid-in capital, accumulated deficit, total stockholders' (deficit) equity, and total capitalization following the closing of this offering will be adjusted based on the actual initial public offering price and other terms of the offering determined at the pricing of this offering. You should read this table together with our consolidated financial statements and related notes, and the sections titled "Selected Consolidated Financial and Other Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" that are included elsewhere in this prospectus.

	As of March 31, 2021		
	Actual	Pro Forma	**Pro Forma As Adjusted(1)**
		(unaudited)	
	(in thousands, except share and per share data)		
Cash and cash equivalents	$117,459		$$
Convertible preferred stock, $0.0001 par value; 19,074,276 shares authorized, issued and outstanding, actual; no shares authorized, issued and outstanding, pro forma and pro forma as adjusted	182,609		$$
Stockholders' equity (deficit):			
Preferred stock, $0.0001 par value; no shares authorized, issued and outstanding, actual; 20,000,000 shares authorized, no shares issued and outstanding, pro forma and pro forma as adjusted			
Common stock, $0.0001 par value; 42,800,000 shares authorized, 13,117,876 issued and outstanding, actual, no shares issued and outstanding, pro forma and pro forma as adjusted	—		
Class A common stock, $0.0001 par value; no shares authorized, issued and outstanding, actual; 2,000,000,000 shares authorized, 6,187,542 shares issued and outstanding, pro forma; 2,000,000,000 shares authorized, shares issued and outstanding, pro forma as adjusted	1		
Class B common stock, $0.0001 par value; no shares authorized, issued and outstanding, actual; 30,000,000 shares authorized, 26,004,610 shares issued and outstanding, pro forma; shares authorized, shares issued and outstanding, pro forma as adjusted			
Additional paid-in capital	26,465		
Accumulated other comprehensive loss			
Accumulated deficit	(124,251)		
Total stockholders' (deficit) equity	$(97,785)		$ $

Total capitalization	$19,674	$ $

(1)Each $1.00 increase or decrease in the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease each of cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization on a pro forma as adjusted basis by approximately $ million, assuming the number of shares offered, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, each 1.0 million share increase or decrease in the number of shares offered by us in this offering would increase or decrease each of cash and cash equivalents, additional paid-in capital, total stockholders' (deficit) equity, and total capitalization on a pro forma as adjusted basis by approximately $ million, assuming that the initial public offering price per share remains at $, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

Dilution

If you invest in our Class A common stock in this offering, your ownership interest will be diluted to the extent of the difference between the initial public offering price per share of Class A common stock and the pro forma as adjusted net tangible book value per share of our Class A and Class B common stock immediately after this offering.

Our historical net tangible book value as of March 31, 2021 was $(108.2) million , or $(8.72) per share. Net tangible book value per share represents the amount of our total tangible assets less our total liabilities and convertible preferred stock, divided by the number of shares of our Class A and Class B common stock outstanding as of March 31, 2021.

Our pro forma net tangible book value as of March 31, 2021 was $ million, or $ per share. Pro forma net tangible book value per share represents the amount of our total tangible assets less our total liabilities, divided by the number of our shares of Class A and Class B common stock outstanding as of March 31, 2021, after giving effect to (1) the Transactions as if such Transactions had occurred on March 31, 2021 and (2) the filing and effectiveness of our amended and restated certificate of incorporation in Delaware, which will occur immediately prior to the completion of this offering.

After giving effect to the sale and issuance by us of shares of Class A common stock in this offering at an assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting underwriting discounts and commissions and estimated offering expenses, our pro forma as adjusted net tangible book value as of March 31, 2021 would have been $ million, or $ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value of $ per share to our existing stockholders and an immediate dilution in pro forma as adjusted net tangible book value of $ per share to new investors purchasing Class A common stock in this offering.

We determine dilution by subtracting the pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors for a share of Class A common stock. The following table illustrates this dilution on a per share basis:

Assumed initial public offering price per share	$
Historical net tangible book value per share as of March 31, 2021	$(8.72)
Increase per share attributable to the pro forma adjustments described above	
Pro forma net tangible book value per share as of March 31, 2021	
Increase in pro forma net tangible book value per share attributable to new investors purchasing shares of Class A common stock in this offering	
Pro forma as adjusted net tangible book value per share immediately after this offering	
Dilution in pro forma as adjusted net tangible book value per share to new investors in this offering	$

The dilution information discussed above is illustrative only and may change based on the actual initial public offering price and other terms of this offering. Each $1.00 increase or decrease in the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, our pro forma as adjusted net tangible book value per share after this offering by $ per share and the dilution per share to new investors participating in this offering by $ per share, assuming that the number of shares of Class A common stock offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. Similarly, a 1.0 million share increase in the number of shares of Class A common stock offered by us would increase the pro forma as adjusted net tangible book value after this offering by $ per share and decrease the dilution per share to new investors participating in this offering by $ per share, and a 1.0 million share decrease in the number of shares of Class A common stock offered by us would decrease the pro forma as adjusted net tangible book value by $ per share, and increase the

dilution per share to new investors in this offering by $ per share, assuming that the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, remains the same and after deducting underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise in full their option to purchase additional shares of Class A common stock from us, the pro forma as adjusted net tangible book value per share after giving effect to this offering would be $ per share, and the dilution to investors participating in this offering would be $ per share.

The following table summarizes on the pro forma as adjusted basis described above, the differences between the number of shares purchased from us, the total consideration paid and the average price per share paid to us by existing stockholders and by investors purchasing shares of Class A common stock in this offering at the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page on this prospectus, before deducting underwriting discounts and commissions and estimated offering expenses payable by us:

	Shares Purchased		Total Consideration		
	Number	Percent	Amount (in thousands)	Percent	Weighted-Average Price Per Share
Existing stockholders	%			$%	$
New investors					$
Total		100 %		$100 %	

A $1.00 increase or decrease in the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase or decrease, as applicable, the total consideration paid by new investors by $ million and, in the case of an increase, would increase the percentage of total consideration paid by new investors to % and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors to %, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same. Similarly, a 1.0 million share increase or decrease in the number of shares offered by us would increase or decrease, as applicable, the total consideration paid by new investors by $ million and, in the case of an increase, would increase the percentage of total consideration paid by new investors to % and, in the case of a decrease, would decrease the percentage of total consideration paid by new investors to %, assuming that the assumed initial public offering price per share of $, which is the midpoint of the price range set forth on the cover page of this prospectus, remains the same.

If the underwriters exercise their option to purchase additional shares of Class A common stock in full, our existing stockholders would own % and our new investors would own % of the total number of shares of our common stock outstanding upon the completion of this offering.

We will not receive any proceeds from the sale of shares of the Class A common stock by the selling stockholders in this offering. Accordingly, there will be no dilutive impact as a result of such sales.

Selected Consolidated Financial and Other Data

The following tables set forth our selected consolidated financial and other data. The selected consolidated statements of operations data for the years ended December 31, 2019 and 2020 and the selected consolidated balance sheet data as of December 31, 2019 and 2020 have been derived from our audited consolidated financial statements included elsewhere in this prospectus. The selected consolidated statements of operations data for the three months ended March 31, 2020 and 2021 and the selected consolidated balance sheet data as of March 31, 2021 have been derived from our unaudited interim consolidated financial statements included elsewhere in this prospectus. In our opinion, the unaudited interim consolidated financial statements have been prepared on a basis consistent with our audited consolidated financial statements and contain all adjustments, consisting only of normal and recurring adjustments, necessary for a fair presentation of such interim financial statements. Our historical results are not necessarily indicative of the results that may be expected in the future and our interim results are not necessarily indicative of the results that may be expected for the full fiscal year or any other future period. You should read the following selected consolidated financial and other data in conjunction with the section titled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our consolidated financial statements included elsewhere in this prospectus. The selected consolidated financial and other data in this section are not intended to replace, and are qualified in their entirety by, the consolidated financial statements and related notes.

Consolidated Statements of Operations Data:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands, except per share data)	2019	2020	2020	2021
Revenues	$70,760	$161,696	$28,112	$55,360
Cost of revenues (1)	20,737	45,987	8,214	15,019
Gross profit	50,023	115,709	19,898	40,341
Operating expenses:				
Research and development (1)	31,560	53,024	9,576	22,529

Sales and marketing (1) (2)	14,989	34,983	5,511	19,773
General and administrative (1) (3)	16,371	43,713	7,266	11,453
Impairment of capitalized software	1,228	—	—	—
Total operating expenses	64,148	131,720	22,353	53,755
Loss from operations	(14,125)	(16,011)	(2,455)	(13,414)
Other income, net	571	303	233	(41)
Loss before provision for income taxes	(13,554)	(15,708)	(2,222)	(13,455)
Provision for income taxes	—	68	11	17
Net loss	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Basic and diluted net loss per share (4)	$(1.10)	$(1.24)	$(0.18)	$(1.04)
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted (4)	12,373	12,735	12,403	12,916
Pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)(5)		$(0.59)		$(0.53)
Weighted-average shares used in computing pro forma net loss per share attributable to common stockholders—basic and diluted (unaudited)(5)		36,602		36,708

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(1)Includes stock-based compensation expenses as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues	$6	$6	$1	$2
Research and development	1,552	2,773	447	1,111
Sales and marketing	341	348	73	68
General and administrative	1,826	13,904	633	1,370
Total	$3,725	$17,031	$1,154	$2,551

During the year ended December 31, 2020, we recorded compensation costs of $10.2 million related to a secondary transaction where certain employees sold shares of stock to an outside investor at a price above fair market value of the stock.

(2)Includes amortization of capitalized software as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues	$103	$86	$26	$—
Sales and marketing	621	546	33	148
Total	$724	$632	$59	$148

(3)Depreciation of property and equipment is predominately included within General and administrative, with nominal amounts in Cost of revenues, Research and development and Sales and marketing in the Company's consolidated statement of operations.

(4)See Note 13 to our audited consolidated financial statements and Note 12 to our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus for an explanation of the method used to calculate our basic and diluted net loss per share attributable to common stockholders.

(5)We have presented the unaudited pro forma basic and diluted net loss per share which has been computed to give effect to the conversion of our stock-based awards and convertible preferred stock into common stock (using the if-converted method) as though the conversion had occurred as of the beginning of the period. The unaudited pro forma net loss per share does not include shares being offered in this offering.

The following table sets forth the computation of our unaudited pro forma basic and diluted net loss per share:

(In thousands, except per share data)	Year Ended December 31, 2020	Three Months Ended March 31, 2021
Numerator:		
Net loss	$(15,776)	$(13,472)
Pro forma adjustment for RSU compensation expense(a)	(107)	(224)
Pro forma adjustment for executive stock options(b)	(5,724)	(5,649)
Pro forma net loss	(21,607)	(19,345)
Denominator:		
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	12,735	12,916
Pro forma adjustment to reflect assumed conversion of stock options(c)	4,191	4,136
Pro forma adjustment to reflect conversion of executive stock options(b)	602	580
Pro forma adjustment to reflect assumed conversion of RSUs(d)	—	2
Pro forma adjustment to reflect assumed conversion of convertible preferred stock	19,074	19,074
Weighted-average shares used in computing pro forma net loss per share, basic and diluted	36,602	36,708

Pro forma net loss per share, basic and diluted	$(0.59)	$(0.53)

(a)Reflects stock-based compensation expenses related to RSUs subject to both a service-based vesting condition and a performance-based vesting condition, where the performance-based vesting condition will be satisfied in connection with this offering. There was $1.2 million and $1.4 million of unrecognized expense as of December 31, 2020 and March 31, 2021, respectively, remaining after the pro forma RSU compensation expense.

(b)Reflects the conversion of stock options for executives whereby the vesting accelerates in connection with this offering. There was $2.9 million and $2.5 million of unrecognized expense as of December 31, 2020 and March 31, 2021 remaining after given effect to the pro forma stock-based compensation expense.

(c)Reflects the conversion of stock options that vest based solely on a service condition as of December 31, 2020 and March 31, 2021 but have not yet been exercised.

(d)Reflects RSUs that have vested as of December 31, 2020 and March 31, 2021 for which the service-based vesting condition had been satisfied as of December 31, 2020 and March 31, 2021, respectively, and for which the performance-based vesting condition will be satisfied in connection with this offering.

Consolidated Balance Sheet Data:

	As of December 31,		As of March 31,
(In thousands)	2019	2020	2021
Cash and cash equivalents	$59,843	$120,490	$117,459
Working capital	46,816	92,690	74,916
Total assets	95,059	175,739	176,874
Total deferred revenues	26,307	54,792	65,262
Total stockholders' deficit	(83,976)	(80,691)	(97,785)

Key Operating Metrics and Non-GAAP Financial Measures

We regularly review a number of key operating metrics and non-GAAP financial measures to evaluate our business, measure our performance, identify trends, prepare financial projections and make business decisions. The measures set forth below should be considered in addition to, not as a substitute for or in isolation from, our financial measures prepared in accordance with GAAP. Other companies, including companies in our industry, may calculate these measures differently or not at all, which reduces their usefulness as comparative measures. A reconciliation of the non-GAAP financial measures, Adjusted EBITDA and free cash flow to the most directly comparable financial measure calculated in accordance with GAAP is set forth below under "—Non-GAAP Financial Measures."

	Year Ended December 31,		Three Months Ended March 31,	
(In millions, except dollar amounts in thousands)	2019	2020	2020	2021
Operating Metrics				
Monthly active users (MAUs)(1)	27.3	36.7	33.5	39.9
Daily active users (DAUs)(2)	5.2	8.2	6.8	9.5
Paid subscribers(3)	0.9	1.6	1.1	1.8
Subscription bookings(4)	$72,115	$144,379	$30,737	$50,466
Total bookings(5)	$88,033	$190,181	$36,880	$65,830
Non-GAAP Financial Measures				
Net loss (GAAP)	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Adjusted EBITDA(6)	$(7,969)	$3,630	$(867)	$871
Net cash provided by operating activities (GAAP)	$2,152	$17,708	$4,719	$5,123
Free cash flow(6)	$(3,094)	$13,976	$2,996	$3,825

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(1)MAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each month. MAUs are reported for a measurement period by taking the average of each calendar month in that measurement period. MAUs are a measure of the size of our global active user community on Duolingo.

(2)DAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each calendar day. DAUs are reported for a measurement period by taking the average of the DAUs for each day in that measurement period. DAUs are a measure of the consistent engagement of our global user community on Duolingo.

(3)Paid subscribers are defined as users who pay for access to Duolingo Plus and had an active subscription as of the end of the measurement period. Each unique user account is treated as a single paid subscriber regardless of whether such user purchases multiple subscriptions, and the count of paid subscribers does not include users who are currently on a free trial.

(4)Subscription bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus.

(5)Total bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus, a registration for a Duolingo English Test, an in-app purchase for a virtual good and from advertising networks for advertisements served to our users.

(6)See "—Non-GAAP Financial Measures" below for more information.

Non-GAAP Financial Measures

We use certain non-GAAP financial measures to supplement our consolidated financial statements, which are presented in accordance with GAAP. These non-GAAP financial measures include Adjusted EBITDA and free cash flow. We use these non-GAAP financial measures for financial and operational decision-making and as a means to evaluate period-to-period comparisons. By excluding certain items that may not be indicative of our recurring core operating results, we believe that Adjusted EBITDA and free cash flow provide meaningful supplemental info regarding our performance. Accordingly, we believe these non-GAAP financial measures are useful to investors and others because they allow for additional information with respect to financial measures used by management in its financial and operational decision-making and they may be used by our institutional investors and the analyst community to help them analyze the health of our business. However, there are a number of limitations related to the use of non-GAAP financial measures, and these non-GAAP measures should be considered in addition to, not as a substitute for or in isolation from, our financial results prepared in accordance with GAAP. Other companies, including companies in our industry, may calculate these non-GAAP financials measures differently or not at all, which reduces their usefulness as comparative measures.

Adjusted EBITDA: Adjusted EBITDA is defined as net loss excluding interest (income) expense, net, income tax provision, depreciation and amortization, IPO and public company readiness costs, stock-based compensation expense, tender offer-related costs, other expenses, and the impairment of capitalized software. Adjusted EBITDA is used by management to evaluate the financial performance of our business and we present Adjusted EBITDA because we believe it is helpful in highlighting trends in our operating results and that it is frequently used by analysts, investors and other interested parties to evaluate companies in our industry. The following table presents a reconciliation of our net loss, the most directly comparable financial measure presented in accordance with GAAP, to Adjusted EBITDA.

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Net loss	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Interest (income) expense, net	(619)	(231)	(198)	(2)
Income tax provision	—	68	11	17
Depreciation and amortization	1,251	2,256	399	600
IPO and public company readiness costs(1)	—	282	—	480
Stock-based compensation expense	3,725	17,031	1,154	2,551
Tender offer-related costs(2)	—	—	—	5,599
Other expenses(3)	—	—	—	5,098
Impairment of capitalized software(4)	1,228	—	—	—
Adjusted EBITDA	$(7,969)	$3,630	$(867)	$871

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(1)IPO and public company readiness costs include costs associated with IPO readiness and establishment of our public company structure and processes, including consultant costs. These costs are included within General and administrative expenses within our Consolidated Statement of Operations.

(2)Includes costs related to our tender offer initiated in February 2021 (see Note 14 to our audited consolidated financial statements and Note 9 to our unaudited interim condensed consolidated financial statements included elsewhere in this prospectus), including fees incurred, as follows:

(In thousands)	Cost of revenues	Research and development	Sales and marketing	General and administrative	Total
Tender offer	$10	$3,302	$173	$1,790	$5,275
Fees and taxes paid on tender offer	—	—	—	324	324
Total	$10	$3,302	$173	$2,114	$5,599

(3)Represents one-time cash awards to Duolingo contributors under our non-employee volunteer program included within Sales and marketing expenses within our Consolidated Statement of Operations. See Note 14 to our audited consolidated financial statements and Note 2 to our unaudited interim consolidated financial statements included elsewhere in this prospectus.

(4)Represents the write off of the capitalization of an internal-use software project prior to being launched to the user base.

Free Cash Flow: Free cash flow represents net cash provided by operating activities, reduced by purchases of property and equipment, capitalized software development costs, and increased by IPO and public company readiness costs, as we believe they are not indicative of future liquidity. We believe that free cash flow is a measure of liquidity that provides useful information to our management, investors and others in understanding

and evaluating the strength of our liquidity and future ability to generate cash that can be used for strategic opportunities or investing in our business in the same manner as our management and board of directors. The following table presents a reconciliation of net cash provided by operating activities, the most directly comparable financial measure calculated in accordance with GAAP to free cash flow:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Net cash provided by operating activities	$2,152	$17,708	$4,719	$5,123
Less: Capitalized software development costs	(1,476)	(638)	(123)	(939)
Less: Purchases of property and equipment	(3,770)	(3,376)	(1,600)	(839)
Plus: IPO and public company readiness costs(1)	—	282		480
Free cash flow	$(3,094)	$13,976	$2,996	$3,825

(1)IPO and public company readiness costs include costs associated with IPO readiness and establishment of our public company structure and processes, including consultant costs. These costs are included within General and administrative expenses within our Consolidated Statement of Operations.

Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis of our financial condition and results of operations together with the "Selected Consolidated Financial and Other Data" and our consolidated financial statements and related notes included elsewhere in this prospectus. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of various factors, including those set forth under the section titled "Risk Factors" or in other parts of this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future. Except as otherwise noted, all references to 2019 refer to the year ended December 31, 2019 and references to 2020 refer to the year ended December 31, 2020. Subscriber metrics refer to the specific date denoted.

Overview

Duolingo is the leading global mobile learning platform, offering courses in 40 languages to approximately 40 million monthly active users. Our flagship app has organically become the world's most popular way to learn languages and the top-grossing app in the Education category on both Google Play and the Apple App Store. We believe that we have become the preeminent online destination for language learning due to our beautifully designed products, exceptional user engagement, and demonstrated learning efficacy.

Our mission is to develop the best education in the world and make it universally available. Education has the ability to transform lives and create opportunities for social and economic advancement. However, access to high quality education is out of reach for too many people worldwide. We started Duolingo to provide access to quality education to everyone, and we started with a focus on language learning because of its potential to power both economic advancement and deep human connection.

The global market for consumer language learning is large, growing, and shifting online, and we believe we have a significant opportunity to expand our impact. There are 1.8 billion people in the world learning a new language, according to HolonIQ. In addition, we believe we are expanding the language learning market. For example, according to a survey we conducted in 2021, almost 80% of Duolingo users in the US were not already learning a language when they began using Duolingo.

Duolingo's products are built on the belief that the hardest thing about learning a new language is staying motivated. Our product philosophy is centered around ensuring that learners have fun while also achieving their learning goals. We encourage our learners to return to our products day after day through our gamified experience. Our engaged learner base completes more than 500 million exercises each day.

Our technology is at the core of everything we do. In addition to our obsession with beautiful, engaging design, we utilize the latest in machine learning and data analytics, along with a relentless focus on A/B testing, to leverage our significant data scale to improve our learners' experience. We have an industry-leading team of approximately 280 software engineers, product designers and product managers. Approximately 20% of them are on functional engineering teams, building and maintaining foundational infrastructure, and approximately 80% are on product teams, iterating on features as well as researching and prototyping new product extensions.

Since Duolingo's launch in 2011, we have consistently invested in improving our platform to provide our learners a fun, engaging, and effective learning experience while remaining committed to our mission of making high quality education universally available. Over the years, we have experienced significant growth in learners on our platform, primarily through organic word-of-mouth virality rather than paid user acquisition. Below are some of the most important milestones in our journey:

Our core competencies in engineering, A/B testing, data analytics, product design, gamification, personalization, and assessment are applicable not only to language learning but also to additional subjects. For example, in 2016, we launched the Duolingo English Test, which is our modern approach to testing and a pioneer in online, on-demand, high-stakes English proficiency assessment. In 2020, over 344,000 individual Duolingo English Tests were purchased compared to approximately 17,000 in 2019, a growth of approximately 2,000%. In early 2020, we launched Duolingo ABC, a new product focused on early literacy designed for children ages three to six.

Since our founding, we have made extensive investments in technology and data analytics. Both the Duolingo English Test and Duolingo ABC leverage our shared technology infrastructure, and we believe our platform and its capabilities are extensible to additional products and subject areas.

For the years ended December 31, 2019 and 2020, we generated:

•Total revenues of $70.8 million and $161.7 million, respectively, representing year-over-year growth of 129%;

•Subscription revenues of $54.8 million and $117.5 million, respectively, representing year-over-year growth of 114%;

•Gross profit of $50.0 million and $115.7 million, respectively, representing year-over-year growth of 131%;

•Net loss of $13.6 million and $15.8 million, respectively;

•Adjusted EBITDA of $(8.0) million and $3.6 million, respectively;

•Net cash provided by operating activities of $2.2 million and $17.7 million, respectively; and •Free cash flow of $(3.1) million and $14.0 million, respectively.

For the three months ended March 31, 2020 and 2021, we generated:

•Total revenues of $28.1 million and $55.4 million, respectively, representing period-over-period growth of 97%;

•Subscription revenues of $22.2 million and $40.1 million, respectively, representing period-over-period growth of 81%;

•Gross profit of $19.9 million and $40.3 million, respectively, representing period-over-period growth of 103%;

•Net loss of $2.2 million and $13.5 million, respectively;

•Adjusted EBITDA of $(0.9) million and $0.9, million respectively;

•Net cash provided by operating activities of $4.7 million and $5.1 million, respectively; and •Free cash flow of $3.0 million and $3.8 million, respectively.

Our Business Model

How We Generate Revenue

We use a freemium business model that relies on a premium subscription offering, advertising, and in-app-purchases (IAPs) to produce revenue. We believe the following key attributes of our freemium subscription business model are core to our success.

•Large Market: There is an enormous pool of potential language learners globally that HolonIQ estimates at 1.8 billion people.

•Free Users: Since none of our learning content is behind a paywall, anyone can download the Duolingo app, use it for as long as they like, and complete any of our courses free of charge. This has allowed us to scale to 40 million MAUs for the quarter ended March 31, 2021. These millions of learners provide two benefits to our business model:

◦They become advocates for Duolingo and provide word-of-mouth publicity for our product, which enables our growth and has allowed us to make very selective and efficient marketing investments. From 2011 through the end of 2019, we spent a cumulative $14.5 million dollars on external marketing, even as Duolingo was downloaded hundreds of millions of times.

◦Our users complete over 500 million exercises every day, generating large amounts of data that powers our high-volume A/B testing and novel AI techniques. We use this data and the insights that come from it to continually improve both engagement and efficacy.

•Paid Subscriber Conversion: As learners tend to use our product for months or even years before they decide to subscribe, we enjoy economic benefits from attracting new users well into their tenure on the platform. In 2020, approximately 4% of our MAUs were paying subscribers. As of March 31, 2021, approximately 5% of our MAUs were paying subscribers.

Subscription

Our subscription offering is called Duolingo Plus. It offers learners features such as an ad-free experience, along with additional learning and gamification features that enhance their learning experience. One such enhancement is unlimited Hearts, which give learners more flexibility in how they move through course content. As of December 31, 2020, Duolingo Plus has approximately 1.6 million paying subscribers, and in 2020 subscriptions accounted for approximately 73% of our revenue. As of March 31, 2021, Duolingo Plus had approximately 1.8 million paid subscribers, and in the three months ended March 31, 2021 subscriptions accounted for approximately 72% of our revenue.

As of March 31, 2021, Duolingo Plus has three primary subscription plans:

Learning app plans	Payment Basis	Duration	iOS/Android Price (US$)(1)	Web Price (US$)
1-month	Upfront, subscription	1 month from date of purchase (28-31 days)	12.99/mo	12.99/mo
6-month(2)	Upfront, subscription	6 months from date of purchase	47.99 (7.99/mo)	47.94 (7.99/mo)
12-month	Upfront, subscription	12 month from date of purchase (365-366 days)	79.99 (6.67/mo)	83.88 (6.99/mo)

(1)Prices listed in the table are list prices only. Internationally, prices across all platforms are adjusted to match the US dollar price based on country exchange rates.

(2)6-month subscription plan is being deprecated starting from the fourth quarter of 2020.

Advertising and Other Revenue For users who are unable or unwilling to pay a subscription fee, we provide free access to our product and generate advertising revenue from the sale of display and video advertising delivered through advertising impressions. We generally enter into arrangements with the major programmatic advertising networks to monetize our advertising inventory. Our advertising revenue is primarily a function of the number of our free users, hours of engagement of our free users, and our ability to provide innovative advertising products that are relevant to our users and enhance returns for our advertising partners. Advertising revenue represented approximately 17% of our revenue in 2020.

In-app purchases consist of learners purchasing one-time benefits within the app, such as “streak freezes” and “timer boosts.” In 2020, we generated approximately 1% of our revenue from in-app purchases.

In addition to monetizing the Duolingo language learning app, we generate revenue from the Duolingo English Test by charging test takers a one-time fee of $49. University program acceptance is a driver of Duolingo English Test revenue. As of May 2021, over 3,000 higher education programs around the world accept the Duolingo English Test results as proof of English proficiency for international student admissions, including 17 of the top 20 undergraduate programs in the United States according to US News and World Report. Fee revenue from the Duolingo English Test accounted for approximately 9% of our revenue in 2020.

How We Invest in Our Business

We are a product-driven company and believe that by investing in engineering, product development, and design we will see measurable return on investment (ROI) as we improve existing products and launch new offerings that will serve our learners’ needs. Our continual investment in research and development drives learner engagement and efficacy on our platform. This, in turn, drives organic user growth, and our user growth leads to subscriber growth.

Research and development expenses were 45% and 33% of our total revenue in 2019 and 2020, and 34% and 41% of our total revenue in the three months ended March 31, 2020 and 2021. We expect to continue to spend a significant portion of our revenue on research and development in the future. We anticipate funding this spending on research and development through improvements in our gross profit. For example, because we pay fees to app platforms (i.e., Google Play and Apple App Store) representing approximately 30% of revenue for sales in the first 12 months of a subscriber’s tenure and 15% of revenue for bookings thereafter, we believe we can improve our gross margin by retaining subscribers past 12 months.

Because of our focus on our organic growth, we have been able to spend efficiently on marketing. Our investments to date are focused on high-leverage brand advertising and, to a lesser extent, performance marketing. From our founding in 2011 to the end of 2020, we have grown to our current scale while having spent only $41.8 million in aggregate on external marketing, $27.4 million of which was in 2020. In total in 2020, we spent 22% of revenue on sales and marketing—including the costs of our sales and marketing personnel—and we expect these costs to grow at a slower pace than revenue over time.

Key Operating Metrics and Non-GAAP Financial Measures

We regularly review a number of key operating metrics and non-GAAP financial measures to evaluate our business, measure our performance, identify trends, prepare financial projections and make business decisions. See “Selected Consolidated Financial and Other Data—Key Operating Metrics and Non-GAAP Financial Measures” for additional information on the operating metrics and non-GAAP financial measures set forth below, including a reconciliation of the non-GAAP financial measures Adjusted EBITDA and free cash flow to the most directly comparable financial measure calculated in accordance with GAAP.

	Year Ended December 31,		Three Months Ended March 31,	
(In millions, except dollar amounts in thousands)	2019	2020	2020	2021
Operating Metrics				
Monthly active users (MAUs)	27.3	36.7	33.5	39.9
Daily active users (DAUs)	5.2	8.2	6.8	9.5
Paid subscribers	0.9	1.6	1.1	1.8
Subscription bookings	$72,115	$144,379	$30,737	$50,466

Total bookings	$88,033	$190,181	$36,880	$65,830
Non-GAAP Financial Measures				
Net loss (GAAP)	$(13,554)	$(15,776)	$(2,233)	$(13,472)
Adjusted EBITDA	$(7,969)	$3,630	$(867)	$871
Net cash provided by operating activities (GAAP)	$2,152	$17,708	$4,719	$5,123
Free cash flow	$(3,094)	$13,976	$2,996	$3,825

Operating Metrics

Monthly Active Users (MAUs). MAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each month. MAUs are reported for a measurement period by taking the average of each calendar month in that measurement period. MAUs are a measure of the size of our global active user community on Duolingo.

For 2019 and 2020, we had approximately 27.3 million and 36.7 million MAUs, respectively, representing a year-over-year increase of 34% and a CAGR of 20% from 2016 to 2020. We grow MAUs by attracting new users, retaining existing users, and by tapping into the millions of former users who return to our language learning app because of our product initiatives and brand marketing.

Daily Active Users (DAUs). DAUs are defined as unique Duolingo users who engage with our mobile language learning application or the language learning section of our website each calendar day. DAUs are reported for a measurement period by taking the average of the DAUs for each day in that measurement period. DAUs are a measure of the consistent engagement of our global user community on Duolingo.

For 2019 and 2020, we had approximately 5.2 million and 8.2 million DAUs, respectively, representing a year-over-year increase of 58% and a CAGR of 31% from 2016 to 2020. From 2019 to 2020, the DAU / MAU ratio, which we believe is another indicator of user engagement, increased from 19% to 22%. We grow DAUs by making the product more fun and engaging, as well as through our marketing efforts.

Paid Subscribers. Paid subscribers are defined as users who pay for access to Duolingo Plus and had an active subscription as of the end of the measurement period. Each unique user account is treated as a single paid subscriber regardless of whether such user purchases multiple subscriptions, and the count of paid subscribers does not include users who are currently on a free trial.

As of December 31, 2019 and 2020, we had approximately 0.9 million and 1.6 million paid subscribers, respectively, representing an increase of 84% year-over-year and a CAGR of 195% from 2017 to 2020. We grow paid subscribers by growing our free user base, converting a greater number of users to paid subscribers, and retaining subscribers.

Subscription Bookings and Total Bookings. Subscription bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus. Total bookings represent the amounts we receive from a purchase of a subscription to Duolingo Plus, a registration for a Duolingo English Test, an in-app purchase for a virtual good and from advertising networks for advertisements served to our users. We believe bookings provide an indication of trends in our operating results, including cash flows, that are not necessarily reflected in our revenue because we recognize subscription revenue ratably over the lifetime of a subscription, which is generally from one to twelve months.

For the years ended December 31, 2019 and 2020, we generated $88.0 million and $190.2 million total bookings, respectively, representing a year-over-year increase of 116%. For the years ended December 31, 2019 and 2020, we generated $72.1 million and $144.4 million of subscription bookings, respectively, representing a year-over-year increase of 100%. For the three months ended March 31, 2020 and 2021, we generated $36.9 million and $65.8 million total bookings, respectively, representing a year-over-year increase of 78%. For the three months ended March 31, 2020 and 2021, we generated $30.7 million and $50.5 million of subscription bookings, respectively, representing a period-over-period increase of 64%. We generate subscription bookings by selling first time and renewal subscriptions as well as subscriptions to subscribers who previously had a subscription and return. As we grow our user base, convert a greater proportion of users to first time subscribers, increase renewal rates, and increase the proportion of re-subscribers, we increase subscription bookings.

Non-GAAP Financial Measures

Adjusted EBITDA. Earnings (loss) before interest, taxes, depreciation and amortization (EBITDA) is one of the metrics used by management to evaluate the financial performance of our business. Adjusted EBITDA is defined as net loss excluding interest (income) expense, net, income tax provision, depreciation and amortization, IPO and public company readiness costs as we prepare to be a public company, stock-based compensation expense, tender offer-related costs, other expenses and the impairment of capitalized software. Adjusted EBITDA is used by management to evaluate the financial performance of our business, and we present Adjusted EBITDA because we believe it is helpful in highlighting trends in our operating results and that it is frequently used by analysts, investors and other interested parties to evaluate companies in our industry.

Adjusted EBITDA increases as we grow revenue, improve gross margin, and reduce operating expenses as a percentage of revenue, or through a combination of those drivers. For the years ended December 31, 2019 and 2020, we generated $(8.0) million and $3.6 million of Adjusted EBITDA, respectively. The year-over-year increase in Adjusted EBITDA occurred because gross margin improved and revenue grew at a faster rate than the growth of our operating expenses. For the three months ended March 31, 2020 and 2021, we generated $(0.9) million and $0.9 million of Adjusted EBITDA, respectively. The period-over-period increase in Adjusted EBITDA occurred because gross profit improved and operating expenses in the three months ended March 31, 2021 grew less rapidly than revenue when adjusted for costs incurred related to IPO and public company readiness and other costs which did not occur in the prior year.

Free Cash Flow. Free cash flow represents net cash provided by operating activities, reduced by purchases of property and equipment, capitalized software development costs, and increased by IPO and public company readiness costs, as we believe they are not indicative of future liquidity. We believe that free cash flow is a measure of liquidity that provides useful information to our management, investors and others in understanding and evaluating the strength of our liquidity and future ability to generate cash.

For the years ended December 31, 2019 and 2020, we generated $(3.1) million and $14.0 million of free cash flow, respectively. Subscribers prepay for subscriptions at the time of purchase, so the year-over-year increase in subscription bookings led to this increase in free cash flow. Growing bookings and reducing costs as a percentage of bookings generate improvements in free cash flow. For the three months ended March 31, 2020 and 2021, we generated $3.0 million and $3.8 million of free cash flow, respectively. Free cash flow was impacted by an increase in cash from operations related to increased bookings and improvements in working capital.

Key Factors Affecting our Performance

Our results of operations and financial condition have been, and will continue to be, affected by a number of factors that present significant opportunities for us but also pose risks and challenges, including those discussed below and in the section of this prospectus titled "Risk Factors."

Growth in Users and Paid Subscribers

Our business model is dependent upon our ability to grow and maintain a large user base, and it also requires that we grow and keep paid subscribers.

Since 2016, our free users, as measured by MAUs, have more than doubled. This increase in free user scale enables our learning and investment flywheels.

•Learning flywheel: The greater the scale of our learner base, the more we can use insights from data analytics to improve both engagement and efficacy. The more engaging our products are, and the more effectively we teach, the more our learners tell their friends about Duolingo and the more we continue to grow our learner base.

•Investment flywheel: Our user scale and word-of-mouth growth allow us to focus our capital investments on product innovation and data analytics, as opposed to brand or performance marketing. The more learners use Duolingo and convert into paid subscribers, the more we are able to invest in creating an even more delightful, engaging and effective learning experience. In turn, this increases our popularity and user scale, as well as the effectiveness of our data analytics, further widening our competitive moat.

In addition to the growth in free users, we have consistently grown the percentage of MAUs that pay us a subscription. Learners on our platform typically begin by engaging with our free offering, which serves as a funnel to grow our user base as well as drive conversion to our paid subscription. We engage our free learners by providing them a highly engaging and fun user experience and a well-designed product. Over time, as they experience the product or want to access more features, a portion of our free user base purchases our subscription offering. Starting from less than 1% paid subscriber penetration in 2017, we have increased to approximately 4% paid subscriber penetration in 2020.

While we believe we are in the early days of increasing the number of learners on our platform and increasing our paid subscriber penetration, at some point we may face challenges to increasing both of the metrics. These challenges may include increasing competition from alternative products and a lack of appealing new product features. We may also at some point find that growth in paid subscribers slows due to saturation of our paid subscribers as a percentage of our total learners.

Our User and Subscriber Cohort Characteristics

We believe that our business has attractive cohort characteristics because of our user growth, the improving conversion of free users to paid subscribers, and the stickiness of subscribers. As a result of our freemium model, we are able to cost-effectively attract learners to the platform, and these learners often use our product for months or even years for free before becoming subscribers.

In the chart below we illustrate the power of this dynamic. User cohorts convert into paid subscribers over time, not solely in the year they first use Duolingo. For example, in 2020, approximately 53% of our first time subscription bookings came from users who joined the platform that year (in green), and approximately 47% came from users who joined before 2020 (in gray). We believe this is a business justification for having a high quality, deeply engaging free user experience: it leads to users staying on the platform over long-periods of time and provides us with repeated opportunities to convert them to paid subscribers.

There is no guarantee that these trends in user growth or conversion improvement will continue in the future. If any of these trends degrades, it will diminish the attractiveness of our user and subscriber cohorts.

Ability to Expand Lifetime Value of Subscribers

The average lifetime value of our subscribers is driven by the length of their subscription plans and by the mix of plans purchased.

Subscribers on our annual subscription plan tend to stay on our platform longer and are stickier than subscribers on our monthly plan. As of March 31, 2021, for subscribers who purchased annual plans in 2018, 2019, and 2020, the percentage who renewed their subscription after 12 months was approximately 40% for each period. For monthly subscribers over that same period, the percentage of subscribers who renewed their subscription after 12 months was approximately 9% for each period. As a result, even though the annual plan has a lower average revenue per user,

the lifetime value of subscribers on our annual plan is approximately twice as high as the lifetime value of subscribers on our monthly plan. Given the limited history of our subscription product, which we launched in late 2017, we calculate lifetime value of our subscribers based on three-year historical cohort behavior and extrapolate this data for recent cohorts that have less than three years of data. At some point, the stickiness of our subscribers and their lifetime value may decrease if we do not continue to improve our subscriber experience or product features, or if competition increases in our industry.

We have been successful in shifting our mix of paid subscribers to favor annual subscriptions over time. For example, annual subscribers made up approximately 47% of our paid subscribers as of the end of 2018, increasing to 71% of paid subscribers as of the end of 2020. This shift toward annual subscribers has had a positive impact on subscriber lifetime value. We plan to continue to shift our subscriber mix toward annual subscribers, but we may face increased challenges in doing so.

Maintaining Efficient User Acquisition and Strong Unit Economics

Our investment in developing free, fun, engaging, and effective products creates an efficient user acquisition model, which drives strong unit economics.

Our gross margins are over 70% of revenue, with payment-processing and platform fees we pay the app platforms (i.e., Google Play and Apple App Store) making up a majority of our Cost of Revenue. This gross margin, coupled with our primarily word-of-mouth driven, unpaid organic user acquisition model, leads to strong unit economics. For our paid user acquisition, we take a balanced and disciplined approach to marketing with no dependency on one channel. Our strategy includes brand marketing campaigns and our owned media marketing.

We expect to continue to invest in product and marketing, while balancing growth with strong unit economics. Our marketing investments could increase, particularly as we expand internationally, if we need to spend more to acquire new users.

Our Expansion into New Geographic Markets

Consistent with our mission, we are focused on providing global access to learning and we are working to grow our platform reach around the world. Because we believe that language learning is even more valuable to users in certain international markets than it is in the United States, we are focused on entering new markets while investing in under-penetrated markets. Specifically, we see a significant opportunity to expand our learner base in many regions in Asia and Latin America. Expanding our learner base and increasing our paid subscribers in new geographies will require increased costs related to marketing and localization of product features. Potential risks to our expansion into new geographies include competition and compliance with foreign laws and regulations, as well as risks that our pricing and subscription plans are received differently or adopted at different rates across geographies.

Growth in Adoption of the Duolingo English Test

The Duolingo English Test has grown significantly from 2019 to 2020, driven in part by an expansion of accepting programs and by increased demand due to the COVID-19 pandemic. As of May 2021, over 3,000 higher education programs around the world accept the Duolingo English Test as proof of English proficiency for international student admissions. Going forward, we may face challenges in increasing the number of schools that accept the Duolingo English Test as the pandemic recedes, and we may see a decrease in demand as competition intensifies.

Investing in Growth While Driving Long-Term Profitability

We have demonstrated our ability to balance investment in product, technology and marketing while managing cash flow and achieving positive Adjusted EBITDA. Our language product has offered us a proven playbook for how to efficiently acquire users and drive monetization. We believe we can leverage this playbook across new areas of growth, like our recent entry into the literacy market with the release of Duolingo ABC.

We expect to continue to invest in technology, product innovation, and marketing, while balancing growth with a focus on increasing our long-term margins. Key investment areas for our platform include: machine learning capabilities, including continually improving our personalized learning technology; features that prioritize security and privacy; and new premium offerings that add incremental value to paid subscribers.

Expanding the Offerings on Our Platform

We are continually evaluating new product offerings that are aligned with our mission, core competencies, and learner demand. For example, in early 2020, partly in response to the needs created by the COVD-19 pandemic, we released Duolingo ABC to teach early childhood literacy. We will continue to invest in and launch products where we see opportunities to grow our platform.

Attracting and Retaining Talent

Our business relies on our ability to attract and retain our talent, including engineers, data scientists, product designers and product developers. As of May 31, 2021, we had over 400 employees. Of these employees, approximately 70% work in engineering, product development, and design. We believe that people want to work at a company that is values-driven like Duolingo, and therefore our ability to recruit talent is aided by our mission and brand reputation. We compete for talent within the technology industry.

Impact of COVID-19

To date, the COVID-19 pandemic has not had a significant negative impact on our operations or financial performance. We believe that COVID-19 increased our bookings for a period of time in 2020 due, in part, to stay at home and other social distancing measures, most notably in the second quarter. Our revenue was $28.1, $40.0, $45.3, and $48.3 million in the first, second, third, and fourth quarter of 2020, respectively. Our total bookings were $36.9, $49.6, $46.7, and $57.1 million in the first, second, third, and fourth quarter of 2020, respectively. The pandemic also increased adoption of the Duolingo English Test. To this end, in 2019, the Duolingo English Test generated approximately $1 million of revenue and in 2020 it generated approximately $15 million in revenue. Because this increase was driven in part by increased acceptance of the test, and because we believe universities are unlikely to stop accepting the test when the pandemic ends, we do not expect the Duolingo English Test to revert to pre-pandemic levels.

The extent of the impact of the COVID-19 pandemic on our operational and financial performance, however, depends on certain developments, including ongoing social distancing measures, and future prevention and mitigation measures, as well as the potential for some of these measures to be reinstituted in the event of repeat waves of the virus. Any such developments may have adverse impacts on global economic conditions and consumer confidence and spending, and could materially adversely affect demand, or subscribers' ability to pay, for our products and services. For additional information, see "Risk Factors—General Risk Factors—Our business and results of operations may be materially adversely affected by the recent COVID-19 outbreak or other similar outbreaks."

Results of Operations

Revenue

We generate revenue primarily from the sale of subscriptions. The term-length of our subscription agreements are primarily monthly or annual. We have historically had a six-month subscription plan but during the fourth quarter of 2020, we began to phase it out. We also generate revenue from advertising, the in-app sale of virtual goods, and our English assessment test, the Duolingo English Test.

Cost of Revenue

Cost of revenue predominantly consists of third-party payment processing fees charged by various distribution channel and hosting fees. To a much lesser extent, cost of revenue includes wages and share-based compensation for certain employees in the capacity of customer support, amortization of revenue generating capitalized software, and depreciation of certain property and equipment.

We intend to continue to invest additional resources in our infrastructure and our customer support and success organization to expand the capabilities of our platform and ensure that our users are realizing the full benefit of our products. The level, timing, and relative investment in these areas could affect our cost of revenue in the future.

Gross Profit and Gross Margin

Gross profit represents revenue less cost of revenue. Gross margin is gross profit expressed as a percentage of revenue. Our gross profit may fluctuate from period to period as our revenue fluctuates, and also as a result of the timing and amount of investments we make in items related to cost of revenue.

Operating Expenses

Our operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, benefits, and stock-based compensation expense. Operating expenses also include overhead costs for facilities, including depreciation expense.

Research and Development. We invest heavily in research and development in order to drive user engagement and customer satisfaction on our platform, which we believe helps to drive organic growth in new users. This, in turn, drives additional growth in, and better lifetime value of, our paid subscribers, as well as increased advertising revenue from impressions from our free users. Expenses are primarily made up of costs incurred for the development of new and improved products and features in our applications. Such expenses include compensation of engineers, designers, product managers, including share-based compensation, materials, travel and direct costs associated with the design and required testing of our platform. We expect engineers, designers, and product managers to represent a significant portion of our employees for the foreseeable future. Many of our new products and improvements to our platform require large investments and involve substantial time and risks to develop and launch. Some of these products may not be well received or may take a long time for users to adopt. As a result, the benefits of our research and development investments may be difficult to forecast. We expect to continue to spend a significant portion of our revenue on research and development in the future.

Sales and Marketing. Sales and marketing expenses are expensed as incurred and consists primarily of brand advertising, marketing, digital and social media spend, field marketing, travel, trade show sponsorships and events, conferences and other employee related compensation, including share-based compensation for personnel engaged in sales and marketing functions, and amortization of non-revenue generating capitalized software used to promote Duolingo. We expect our sales and marketing expenses will decline as a percentage of revenue as our revenue grows over the long-term.

General and Administrative. General and administrative expenses primarily consist of employee related compensation (including share-based compensation) for management and administrative functions, including our finance and accounting, legal, and people teams. General and administrative expenses also include certain professional services fees, general corporate and director and officer insurance, our facilities costs, and other general overhead costs that support our operations. We expect to incur additional general and administrative expenses as a result of operating as a public company, including expenses to comply with the rules and regulations of the SEC and Listing Rules of the Nasdaq Global Select Market, as well as higher expenses for corporate insurance, director and officer insurance, investor relations, and professional services. We expect that our general and administrative expenses will increase in absolute dollars as our business grows. However, we expect that our general and administrative expenses will decrease as a percentage of our revenue as our revenue grows over the long-term.

Other Income, Net

Other income, net consists primarily of income earned on our money market funds included in cash and cash equivalents and on our marketable securities, offset by interest expense. Other income, net also includes a minimal amount of foreign currency exchange gains and losses.

Results of Operations

The following table sets forth our consolidated statements of operations data, including percentage of revenue, and year-over-year change, for the periods indicated:

	Year Ended December 31,			Three Months Ended March 31,		
(In thousands)	2019	2020	% Change	2020	2021	% Change
Revenues	$70,760	$161,696	129 %	$28,112	$55,360	97 %
Cost of revenues(1)(2)	20,737	45,987	122	8,214	15,019	83
Gross profit	50,023	115,709	131	19,898	40,341	103
Operating expenses:						
Research and development(1)	31,560	53,024	68	9,576	22,529	135
Sales and marketing(1)(2)	14,989	34,983	133	5,511	19,773	259
General and administrative(1)	16,371	43,713	167	7,266	11,453	58
Impairment of capitalized software	1,228	—	(100)	—	—	—
Total operating expenses	64,148	131,720	105	22,353	53,755	140
Operating loss	(14,125)	(16,011)	13	(2,455)	(13,414)	446
Other income, net	571	303	(47)	233	(41)	(118)
Loss before provision for income taxes	(13,554)	(15,708)	16	(2,222)	(13,455)	506
Provision for income taxes	—	68	—	11	17	55
Net loss	$(13,554)	$(15,776)	16 %	$(2,233)	$(13,472)	503 %

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(1)Includes stock-based compensation expenses as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues	$6	$6	$1	$2
Research and development	1,552	2,773	447	1,111
Sales and marketing	341	348	73	68
General and administrative	1,826	13,904	633	1,370
Total	$3,725	$17,031	$1,154	$2,551

During the year ended December 31, 2020, we recorded compensation costs of $10.2 million related to a secondary transaction where certain employees sold shares of stock to an outside investor at a price above fair market value of the stock.

(2)Includes amortization of capitalized software as follows:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Cost of revenues(a)	$103	$86	$26	$—
Sales and marketing(a)	621	546	33	148
Total	$724	$632	$59	$148

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(a)Amortization of capitalized software is recorded to cost of revenue and selling and marketing for revenue and non-revenue generating capitalized software, respectively.

The following table sets forth the components of our consolidated statements of operations for each of the periods presented as a percentage of revenue.

	Year Ended December 31,		Three Months Ended March 31,	
	2019	2020	2020	2021
Revenues	100 %	100 %	100 %	100 %
Cost of revenues	29	28	29	27
Gross profit	71	72	71	73
Operating expenses:				
Research and development	45	33	34	41
Sales and marketing	21	22	20	36
General and administrative(1)	23	27	26	21
Impairment of capitalized software	2	—	—	—
Total operating expenses	91	82	80	98
Operating loss	(20)	(10)	(9)	(24)
Other income, net	1	—	1	—
Loss before provision for income taxes	(19)	(10)	(8)	(24)
Provision for income taxes	—	—	—	—
Net loss	(19)%	(10)%	(8)%	(24)%

(1)Includes a charge in 2020 of $10.2 million related to a secondary offering, which increased the percentage of revenue from 21% to 27%.

Revenues. Revenues increased $90.9 million, or 129%, to $161.7 million during the year ended December 31, 2020, from revenue of $70.8 million during the year ended December 31, 2019. The main driver was an increase in subscription revenue of $62.7 million, primarily due to a 107% increase in the average number of paid subscribers during 2020 as compared to 2019, with the remainder of the increase driven by a change in mix of plans purchased and increased pricing. We also saw an increase in advertising revenues, primarily due to a 58% increase in DAUs during 2020 as compared to 2019, which resulted in increased advertisements served. Average revenue per DAU for our ads also increased year over year, accounting for the remainder of the increase in advertising revenues. Duolingo English Test revenue grew as well, which can at least partially be attributed to the COVID-19 pandemic with the closing of many in-person test centers, as well as the growth initiatives we have taken during 2020.

Revenues increased $27.2 million, or 97%, to $55.4 million during the three months ended March 31, 2021, from revenue of $28.1 million during the three months ended March 31, 2020. The main driver was an increase in subscription revenue of $17.9 million, primarily due to a 78% increase in the average number of paid subscribers during the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, in addition to a change in mix of plans purchased. In addition, advertising revenues increased $4.3 million. The increase was driven by the 39% increase in DAUs during the three months ended March 31, 2021 as compared to the three months ended March 31, 2020, which resulted in increased advertisements served. Average revenue per DAU for our ads also increased period over period. These drivers each contributed approximately half of the increase in advertising revenues. Duolingo English Test revenue also increased by $4.3 million during the three months ended March 31, 2021 compared to same period a year ago, which we believe highlights the durability of the growth that began during the COVID-19 pandemic.

The table below provides the changes in revenue:

	Year Ended December 31,				Three Months Ended March 31,			
(In thousands)	2019	2020	Change	% Change	2020	2021	Change	% Change
Subscription	$54,848	$117,501	$62,653	114.2 %	$22,171	$40,055	$17,884	80.7 %
Advertising	14,118	27,043	12,925	91.5	5,008	9,275	4,267	85.2
Duolingo English Test	1,022	15,155	14,133	1382.9	753	5,035	4,282	568.7
Other	772	1,997	1,225	158.7	180	995	815	452.8
Total revenues	$70,760	$161,696	$90,936	128.5 %	$28,112	$55,360	$27,248	96.9 %

Cost of Revenues and Gross Margin. Total gross margin increased during both the year ended December 31, 2020 and the three months ended March 31, 2021, as compared to same periods in the previous year. This increase is mainly due to cost efficiencies we implemented in the Duolingo English Test, in addition to increased advertisements served to free users which positively impacted advertising margins, and reduced payment processing fees due to improved stickiness and mix.

The following table provides the change in cost of revenue, along with related gross margins:

	Year Ended December 31,				Three Months Ended March 31,			
	2019		2020		2020		2021	
(In thousands)	Costs	Gross Margin	Costs	Gross Margin	Costs	Gross Margin	Costs	Gross Margin

Total cost of revenues	$20,737	70.7 %	$45,987	71.6 %	$8,214	70.8 %	$15,019	72.9 %

Operating expenses

Research and development. Research and development increased $21.5 million, or 68%, to $53.0 million during the year ended December 31, 2020 from $31.6 million during the year ended December 31, 2019. Research and development also increased $13.0 million, or 135%, to $22.5 million during the three months ended March 31, 2021 from $9.6 million during the three months ended March 31, 2020. The increase in both periods is mainly attributable to an increase in employee growth and contractor costs incurred to help sustain the revenue growth. Additionally, during the three months ended March 31, 2021, we incurred costs of $3.3 million related to the tender offer we initiated in February 2021. Research and development continues to be our highest operating expense as we invest heavily in it in order to drive user engagement and customer satisfaction on our platform, which we believe helps to drive organic growth in new MAUs and DAUs, which in turn drives additional growth in, and better stickiness of, paid subscribers, as well as increased advertising opportunities from free users.

Sales and marketing. Sales and marketing increased $20.0 million, or 133%, to $35.0 million during the year ended December 31, 2020 from $15.0 million during the year ended December 31, 2019. While we incurred $2.0 million of additional expenses related to employee costs, the majority of the increase is due to increased spending on media and brand to support our revenue growth.

Sales and marketing increased $14.3 million, or 259%, to $19.8 million during the three months ended March 31, 2021 from $5.5 million during the three months ended March 31, 2020. While we incurred $5.1 million of costs related to one-time cash awards we granted to Duolingo contributors under our non-employee volunteer program, which we refer to as contributor awards, and $1.0 million of additional expenses related to employee costs, of which $0.2 million was related to the tender offer, the majority of the increase is from spending on media and brand advertising. See Note 14 to our audited consolidated financial statements and Note 2 to our unaudited interim consolidated financial statements included elsewhere in this prospectus for additional information regarding the contributor awards.

General and administrative. General and administrative increased $27.3 million, or 167%, to $43.7 million during the year ended December 31, 2020 from $16.4 million during the year ended December 31, 2019. The main driver of this increase is related to increased employee related costs of $10.7 million, including costs incurred as we begin to prepare to operate as a public company. A Secondary Transaction took place in November 2020, resulting in additional stock compensation expense of $10.2 million. Additionally, we recorded $2.3 million during the year ended December 31, 2020 for estimated taxes we expect to pay related to Sales and Value Added Taxes (VAT). A further $2.9 million is related to increased facility and office related costs and $0.9 million for accounting and legal fees. While we did have a reduction of $1.5 million in meals and travel related costs due to COVID-19, the remaining increase is due to increased costs incurred to expand to our facilities footprint.

General and administrative increased $4.2 million, or 58%, to $11.5 million during the three months ended March 31, 2021 from $7.3 million during the three months ended March 31, 2020. The main driver of this increase was related to increased employee related costs of $2.9 million, of which $1.8 million was related to the tender offer. We also incurred an additional $0.9 million of professional fees, of which $0.4 million was related to IPO and public readiness costs and $0.3 million was related to the tender offer. The expansion of the Pittsburgh office footprint resulted in another $0.3 million of expense. These increases were partially offset by a $0.4 million reduction in travel related costs due to COVID-19.

Other (expense) income, net. Other (expense) income, net decreased $0.3 million, or 47%, to $0.3 million during the year ended December 31, 2020 as compared to $0.6 million during the year ended December 31, 2019. Other (expense) income, net decreased $0.3 million, or (118)%, to $41 thousand during the three months ended March 31, 2021 as compared to income of $0.2 million during the three months ended March 31, 2020. In both periods, the decrease was driven by a change in our investment policy as we moved excess cash to more conservative funds with lower interest rates beginning in early 2020. The remaining decrease is due to losses arising from translation of foreign currency transactions, whereas in the prior year period, we saw gains.

Unaudited Quarterly Results of Operations Data

The following tables set forth our unaudited quarterly consolidated statements of operations data for each of the quarters indicated, as well as the percentage that each line item represents of our revenue for each quarter presented. The information for each quarter has been prepared on a basis consistent with our audited consolidated financial statements included in this prospectus, and reflects, in the opinion of management, all adjustments of a normal, recurring nature that are necessary for a fair statement of the financial information presented. Our historical results are not necessarily indicative of the results that may be expected in the future. The following quarterly financial data should be read in conjunction with our consolidated financial statements included elsewhere in this prospectus.

	Quarter Ended								
(in thousands)	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021
Total revenues	$12,489	$15,646	$19,420	$23,205	$28,112	$40,011	$45,305	$48,268	$55,360
Total cost of revenues	3,747	4,604	5,657	6,729	8,214	11,809	13,101	12,863	15,019
Gross profit	8,742	11,042	13,763	16,476	19,898	28,202	32,204	35,405	40,341
Operating expenses:									
Research and development	6,274	7,422	8,598	9,266	9,576	12,111	15,894	15,444	22,529

Sales and marketing	2,608	2,738	4,348	5,295	5,511	8,625	11,142	9,705	19,773
General and administrative	3,361	3,805	3,992	5,213	7,266	7,385	8,235	20,827	11,453
Impairment of capitalized software	—	—	—	1,228	—	—	—	—	—
Total operating expenses	12,243	13,965	16,938	21,002	22,353	28,120	35,271	45,976	53,755
Loss from operations	(3,501)	(2,923)	(3,175)	(4,526)	(2,455)	82	(3,067)	(10,571)	(13,414)
Other income, net	150	170	136	115	233	(31)	(86)	187	(41)
Loss before provision for income taxes	(3,351)	(2,753)	(3,039)	(4,411)	(2,222)	51	(3,153)	(10,384)	(13,455)
Provision for income taxes	—	—	—	—	11	11	23	23	17
Net loss	$(3,351)	$(2,753)	$(3,039)	$(4,411)	$(2,233)	$40	$(3,176)	$(10,407)	$(13,472)
Interest (income) expense, net	(167)	(173)	(153)	(126)	(198)	(25)	(7)	(1)	(2)
Income tax provision	—	—	—	—	11	11	23	23	17
Depreciation and amortization	413	294	262	282	399	623	627	607	600
IPO and public company readiness costs	—	—	—	—	—	—	127	155	480
Tender related costs	—	—	—	—	—	—	—	—	5,599
Other	—	—	—	—	—	—	—	—	5,098
Stock-based compensation	807	829	878	1,211	1,154	1,682	1,682	12,513	2,551
Impairment of capitalized software	—	—	—	1,228	—	—	—	—	—
Adjusted EBITDA	$(2,298)	$(1,803)	$(2,052)	$(1,816)	$(867)	$2,331	$(724)	$2,890	$871

The following table sets forth our results of operations for the last eight quarterly periods presented as a percentage of our total revenues for those periods:

	Quarter Ended								
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	March 31, 2021
Total revenues	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %
Total cost of revenues	30 %	29 %	29 %	29 %	29 %	30 %	29 %	27 %	27 %
Gross profit	70 %	71 %	71 %	71 %	71 %	70 %	71 %	73 %	73 %
Operating expenses:									
Research and development	50 %	47 %	44 %	40 %	34 %	30 %	35 %	32 %	41 %
Sales and marketing	21 %	17 %	22 %	23 %	20 %	22 %	25 %	20 %	36 %
General and administrative	27 %	24 %	21 %	22 %	26 %	18 %	18 %	43 %	21 %
Impairment of capitalized software	— %	— %	— %	5 %	— %	— %	— %	— %	— %
Total operating expenses	98 %	89 %	87 %	91 %	80 %	70 %	78 %	95 %	97 %
Loss from operations	(28)%	(19)%	(16)%	(20)%	(9)%	— %	(7)%	(22)%	(24)%
Other income, net	1 %	1 %	1 %	— %	1 %	— %	— %	— %	— %
Loss before provision for income taxes	(27)%	(18)%	(16)%	(19)%	(8)%	— %	(7)%	(22)%	(24)%
Provision for income taxes	— %	— %	— %	— %	— %	— %	— %	— %	— %
Net loss	(27)%	(18)%	(16)%	(19)%	(8)%	— %	(7)%	(22)%	(24)%
Interest (income) expense, net	(1)%	(1)%	(1)%	(1)%	(1)%	— %	— %	— %	— %
Income tax provision									— %
Depreciation and amortization	3 %	2 %	1 %	1 %	1 %	2 %	1 %	1 %	1 %
IPO and public company readiness costs	— %	— %	— %	— %	— %	— %	— %	— %	1 %
Tender related costs	— %	— %	— %	— %	— %	— %	— %	— %	10 %
Other	— %	— %	— %	— %	— %	— %	— %	— %	9 %

Stock-based compensation'	6 %	5 %	5 %	5 %	4 %	4 %	4 %	26 %	5 %
Impairment of capitalized software	– %	– %	– %	5 %	– %	– %	– %	– %	– %
Adjusted EBITDA	(18)%	(12)%	(11)%	(8)%	(3)%	6 %	(2)%	6 %	2 %

Liquidity and Capital Resources

Since inception, we have financed operations primarily through revenues from our operations and the net proceeds we have received from the issuance of equity and debt securities. We have raised a total of $183.3 million in capital financing, less issuance costs of $0.7 million.

As of March 31, 2021 we had $117.5 million in cash and cash equivalents. Our cash and cash equivalents primarily consist of bank deposits and money market funds. Our marketable securities consist of commercial debt, certificates of deposit, US government treasury and agency securities, and commercial paper.

We believe that our existing cash and cash equivalents, and cash flow from operations will be sufficient to support working capital and capital expenditure requirements for at least the next 12 months. Our future capital requirements will depend on many factors, including our subscription growth rate and renewal activity, the timing of cash received from our payment-processing platforms, the expansion of our sales and marketing activities, the introduction of new products, and the improvements to existing products. We may be required to seek additional capital. If we are unable to raise additional capital or generate cash flows necessary to expand our operations and invest in continued innovation, we may not be able to compete successfully, which would harm our business, operations and financial condition.

A substantial source of our cash from operations is from amounts paid by our subscription users, which is included in the liabilities section of our condensed consolidated balance sheet. Deferred revenue consists of the unearned portion of customer billings, which is recognized as revenue in accordance with our revenue recognition policy. As of March 31, 2021, we had deferred revenue of $65.3 million, which is recorded as a current liability and expected to be recognized as revenue in the next 12 months, provided all other revenue recognition criteria have been met.

The following table summarizes our cash flows for the periods presented:

	Year Ended December 31,		Three Months Ended March 31,	
(In thousands)	2019	2020	2020	2021
Net cash provided by operating activities	$2,152	$17,708	$4,719	$5,123
Net cash provided by (used for) investing activities	2,431	(4,014)	(1,723)	(1,778)
Net cash provided by (used for) financing activities	30,970	46,953	282	(6,376)
Net increase (decrease) in cash and cash equivalents	$35,553	$60,647	$3,278	$(3,031)

Operating Activities

Cash flows from operating activities can fluctuate significantly from period to period due to timing of payments and cash collections. Our largest source of operating cash is cash collection from sales of subscriptions to our users. Our primary uses of cash from operating activities are for personnel expenses, marketing expenses, hosting expenses and overhead expenses. We have generated positive cash flows and have supplemented working capital requirements through net proceeds from the sale of equity and debt securities.

Cash provided by operating activities for the year ended December 31, 2020 increased by $15.6 million, or 723%, from $2.2 million for the year ended December 31, 2019 to $17.7 million for the year ended December 31, 2020. This increase is due mainly to: an increase in cash received from users for subscriptions, resulting in an increase to deferred revenue; an increase in the non-cash charges from stock compensation expense, depreciation and amortization; an increase in accrued expenses; and a reduction in the non-current assets and liabilities. These increases were partially offset by an increase in accounts receivable and other current assets and liabilities; an increase in deferred costs of revenues; and a decrease in accounts payable.

Cash provided by operating activities for the three months ended March 31, 2021 increased by $0.4 million, or 9%, from $4.7 million for the three months ended March 31, 2020 to $5.1 million for the three months ended March 31, 2021. The main drivers of the increase were accrued expenses and other current liabilities, accounts payable, prepaid expenses and other current assets, deferred revenue and stock-based compensation expense. These increases were partially offset by an increase in net loss.

Investing Activities

Cash provided by (used in) investing activities was $4.0 million for the year ended December 31, 2020, as compared to $2.4 million in cash provided from investing activities for the year ended December 31, 2019. During the prior year, the maturity of an investment resulted in a source of cash of $7.7 million. The capitalization of software development costs and capital expenditures to purchase property and equipment to support office space and site operations decreased by $1.2 million from period to period.

Cash used in investing activities was $1.8 million for the three months ended March 31, 2021, as compared to a use of $1.7 million for the three months ended March 31, 2020. The slight increase is due to increased capitalized software, partially offset by a reduction in spending on property and equipment.

Financing Activities

Cash provided by financing activities for the year ended December 31, 2020 was $47.0 million, and primarily relates to the net proceeds from the issuance of convertible preferred stock of $44.9 million, in addition to proceeds from exercises of stock options of $2.0 million. Cash provided by financing activities for the year ended December 31, 2019 was $31.0 million and was mostly the result of net proceeds from the issuance of convertible preferred stock.

Cash used by financing activities for the three months ended March 31, 2021 was $6.4 million, and was driven by payments made as a result of the tender offer of $8.2 million. These payments were partially offset by proceeds from the exercise of stock options of $2.0 million. Cash provided by financing activities for the three months ended March 31, 2020 was $0.3 million and was almost entirely from proceeds from exercises of stock options.

Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily the result of fluctuations in interest rates and foreign currency exchange rates.

Interest Rate Risk

As of March 31, 2021, of our $117.5 million of cash and cash equivalents, $104.1 million was invested in money market funds. Our cash and cash equivalents are held for working capital purposes in addition to future investments in our products. We do not enter into investments for trading or speculative purposes. Our investments are exposed to market risk due to a fluctuation in interest rates, which may affect our interest income and the fair market value of our investments. As of March 31, 2021, a hypothetical 10% relative change in interest rates would not have a material impact on our consolidated financial statements.

Foreign Currency Exchange Risk

Our reporting currency and the functional currency of our wholly owned foreign subsidiaries is the US dollar. Certain of our payment providers translate our payments from local currency into USD at time of settlement, which means that during periods of a strengthening US dollar, our international receipts could be reduced. Our operating expenses are denominated in the currencies of the countries in which our operations are located, which are primarily in the United States and China. Our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. In addition, as foreign currency exchange rates fluctuate, the translation of our international receipts into US dollars affects the period-over-period comparability of our operating results and can result in foreign currency exchange gains and losses. To date, we have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments, although we may choose to do so in the future. A hypothetical 10% increase or decrease in the relative value of the US dollar to other currencies would not have a material effect on our operating results.

Contractual Obligations

We enter into long-term obligations in the normal course of business related to our non-cancelable operating leases for our offices.

As of December 31, 2020, our contractual cash obligations over the next several periods were as follows:

(In thousands)	Total	Less than 1 year	1 to 3 years	3 to 5 years	More than 5 years
Operating lease commitments	$12,471	$1,696	$2,403	$2,496	$5,876

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet financing arrangements or any relationships with unconsolidated entities or financial partnerships, including entities sometimes referred to as structured finance or special purpose entities, that were established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Critical Accounting Policies and Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions about future events that affect amounts reported in our Consolidated Financial Statements and related notes, as well as the related disclosure of contingent assets and liabilities at the date of the financial statements. Management evaluates its accounting policies, estimates and judgments on an ongoing basis. Management bases its estimates and judgments on historical experience, current trends and various other factors that are believed to be relevant at the time Consolidated Financial Statements are prepared. Actual results may differ from these estimates under different assumptions and conditions.

Management evaluated the development and selection of its critical accounting policies and estimates and believes that the following involve a higher degree of judgment, complexity or uncertainty and are most significant to reporting our results of operations and financial position, and are therefore discussed as critical. The following critical accounting policies reflect the significant estimates and judgments used in the preparation of our Consolidated Financial Statements.

Revenue Recognition

Nature of Revenue

We account for revenue contracts with customers by applying the five step model in Accounting Standards Codification (ASC) 606, Revenue from Contracts with Customers,. Our predominant sources of revenue are time-based subscriptions, in-app advertising placement by third parties and the Duolingo English Test. Revenue is recognized upon transfer of control of promised goods or services to customers in an amount that reflects the consideration expected to be received in exchange for those goods or services. Revenue is recognized net of any taxes collected from customers, which are subsequently remitted to governmental authorities.

Revenue from time-based subscriptions includes a stand-ready obligation to provide hosting services that are consumed by the customer over the subscription period. Users can purchase Duolingo monthly or they can purchase a six-month or year-long subscription and pay for the subscription at the time of purchase. Therefore, such payments are initially recorded to deferred revenue. The user has the ability to download limited content offline. However, as there is a significant level of integration and interdependency with the online functionality, we consider the service to be a single performance obligation for the online and offline content.

We enter into arrangements with advertising networks to monetize the in-app advertising inventory. Revenue from in-app advertising placement is recognized at a point in time when the advertisement is placed and is based upon the amount received.

Duolingo English Test revenue is generally recognized once the tests have gone through the proctoring process and a certification decision has been made. This process usually takes less than 48 hours after the test has been completed and uploaded. Customers have 90 days from the date of purchase to take the exam or their purchase will expire and revenue will be recognized. Virtually all customers complete their exams prior to expiration. Sometimes organizations may purchase tests in bulk via coupons with a one year expiration date. We defer revenue from all tests that have not been proctored nor expired.

Our users have the option to purchase consumable in-app virtual goods. We recognize revenue over the period in which the user consumes the virtual good, which is generally within a month.

Principal Agent Considerations—We make our application available to be downloaded through third-party digital distribution service providers. Users who purchase subscriptions also pay through the respective app stores. We evaluate the purchases via third-party payment processors to determine whether its revenues should be reported gross or net of fees retained by the payment processor. We are the principal in the transaction with the end user as a result of controlling, hosting, and integrating the delivery of the virtual items to the end user. We record revenue gross as a principal and record fees paid to third-party payment processors as Cost of revenues.

Significant Judgment Around Revenue Arrangements with Multiple Deliverables Determining whether products and services are considered distinct performance obligations that should be accounted for separately versus together may require significant judgment. Our time-based subscriptions allow users the ability to download limited content offline. Significant judgment is required to determine whether this offline content should be considered distinct and accounted for separately, or not distinct and accounted for together with the online functionality provided and recognized over time. As there is a significant level of integration and interdependency with the online functionality, which is not the case with the offline functionality, we believe we have a single performance obligation for the online functionality and offline content.

Equity Based Compensation

We follow ASC 718, Compensation-Stock Compensation, to account for our equity based compensation.

Stock-based Compensation ASC 718 requires all stock-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. We generally grant our option awards in a combination of service-based and performance-based. We measure the fair value of our options on the date of grant using the Black-Scholes pricing model which requires the use of several estimates, including the volatility of our share price, the expected life of the option, risk free interest rates and expected dividend yield. The use of different assumptions in the Black-Scholes pricing model would result in different amounts of equity based compensation expense. Furthermore, if different assumptions are used in future periods, our equity based compensation expense could be materially impacted in the future.

Prior to the completion of this offering, we were not a publicly traded company and had only limited historical information on the price of our common stock as well as employees' option exercise behavior. As a result, we could not rely on historical experience alone to develop assumptions for our share price volatility. As such, our share price volatility was estimated with reference to a peer group of companies. Subsequent to the completion of this offering, we will transition to utilize the closing price of our publicly-traded stock to determine our volatility. We determined the expected life of our options using the simplified method described in the SEC Staff Accounting Bulletin Topic 14, Share-Based Payment, which defines the expected life as the average of the contractual term and the vesting period. The risk-free interest rate is based on the yield curve of a zero-coupon US Treasury bond on the date the option award was granted with a maturity equal to the expected term of the option award. We have not and do not expect to pay dividends on our common shares. See Note 9, "Stock Based Compensation," to our consolidated financial statements appearing elsewhere in this prospectus, for further information on equity based compensation.

Restricted Stock Units (RSUs) We began to grant RSUs in November 2020. The fair value of RSUs is estimated based on the fair value of our common stock on the date of grant. Each RSU award vests based upon the satisfaction, during the term of the RSUs, of two requirements: length of service and a liquidity event defined as a change in control or a qualified IPO. The service-based vesting condition for the majority of these

awards is satisfied over four years. The liquidity-based vesting condition is satisfied upon the occurrence of a qualifying liquidity event. We measure and recognize compensation expense for all stock-based awards based on the estimated fair value of the award. As of December 31, 2020, no stock-based compensation expense had been recognized for RSUs because the liquidity-based vesting condition had not been probable of being satisfied. In the period in which our liquidity-based vesting condition becomes probable, we will begin recording stock-based compensation expense for these RSUs with a liquidity-based vesting condition using the accelerated attribution method, net of forfeitures, based on the grant-date fair value of the RSUs.

Common Stock Valuations

Determining the fair value of our common stock requires complex and subjective judgment and estimates. There is inherent uncertainty in making these judgments and estimates. The absence of an active market for our common stock required our board of directors to estimate the fair value of the common stock for purpose of setting the exercise price of the options and estimating the fair value of the common stock at the time options were granted based on factors such as valuations of comparable companies, the status of our development and sales efforts, revenue growth, and additional objective and subjective factors relating to our business. We performed its analysis in accordance with applicable elements of the practice aid issued by the American Institute of Certified Public Accountants' (AICPA) Practice Guide, Valuation of Privately Held Company Equity Securities Issued as Compensation; with this guidance, our board of directors exercised reasonable judgment and considered numerous and subjective factors to determine the best estimate of fair value of our common stock, including the following:

Company Specific Factors •Actual and forecasted operating and financial performance based on management's estimate;

•The development and maintenance of client relationships;

•Client and industry recognition;

•The hiring and retention of key personnel;

•The historical lack of a public market for our common stock;

General Economic Factors •Industry trends and competitive environment;

•Trends in client and the at-large public spending, including client and public confidence;

•Overall economic indicators;

•The general economic outlook; and •The common stock valuations have historically leveraged the historical appraisals we have received to value our common stock, utilizing an income approach.

Income Taxes

Deferred tax assets and liabilities are recognized principally for the expected tax consequences of temporary differences between the tax basis of assets and liabilities and their reported amounts, using currently enacted tax rates. The measurement of a deferred tax asset is reduced, if necessary, by a valuation allowance if it is more likely than not that some portion or all of the deferred tax asset will not be realized. Significant judgment is required in evaluating the need for and magnitude of appropriate valuation allowances. The realization of our deferred tax assets is dependent on generating future taxable income and the reversal of existing temporary differences. Changes in tax laws and assumptions with respect to future taxable income could result in adjustment to these allowances. As of December 31, 2020, we maintained a valuation allowance of approximately $26.2 million against certain deferred tax assets related to both domestic and foreign net operating loss carryforwards, and state R&D credit carryovers as its future utilization remained uncertain.

In addition, we recognize a tax benefit for uncertain tax positions only if we believe it is more likely than not that the position will be upheld on audit based solely on the technical merits of the tax position. We evaluate uncertain tax positions after the consideration of all available information.

Recent Accounting Pronouncements

See Note 2 of the notes to our consolidated financial statements included elsewhere in this prospectus for more information.

Emerging Growth Company Status

We are an "emerging growth company" as defined under the JOBS Act. Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards would otherwise apply to private companies. While we have not historically delayed the adoption of new or revised accounting standards until such time as those standards would apply to private companies, we have elected to take advantage of this extended transition period and, as a result, our operating results and financial statements in the future may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

Letter from Luis von Ahn, Co-Founder and CEO

Business

Our Mission

Our Mission is to develop the best education in the world and make it universally available.

Although education can open the door to economic opportunity, it is also among the principal sources of inequality: the privileged can get the best education in the world, while those with fewer resources, especially in developing countries, may not be able to get even basic schooling. That is why we started Duolingo. We believe that everyone, regardless of how wealthy they are, should have access to high quality education. And for the first time in history, the technology necessary to enable this is in the hands of billions of people, in the form of a smartphone. At Duolingo, we build products native to the smartphone—bite-sized, on-demand and engaging—to make learning accessible and effective, opening doors for everyone alike.

Who We Are

Duolingo is a technology company founded by two engineers, Luis von Ahn and Severin Hacker. Luis and Severin met at Carnegie Mellon University, where Luis was a professor in the Computer Science Department and Severin was his Ph.D. student. Luis, a MacArthur Fellow, grew up in Guatemala and witnessed firsthand the tremendous impact that access to high quality education can have on people's lives. Luis and Severin bonded over the dream of building an intelligent learning system informed by massive amounts of user engagement data that could deliver superior learning outcomes.

Our team of over 400 passionate employees, including more than 170 engineers, aims to build the most sophisticated education platform in the world. We believe that by using modern technology, the very best engineering talent, and a mission-driven approach, we can create better learning experiences and meaningful improvements in efficacy. Our products are powered by sophisticated data analytics and artificial intelligence that make it easier for learners to stay motivated, master new material, and achieve their learning goals.

Our Business

Duolingo is the leading mobile learning platform globally. With over 500 million downloads, our flagship app has organically become the world's most popular way to learn languages and the top-grossing app in the Education category on both Google Play and the Apple App Store. For many, Duolingo has become synonymous with language learning: for example, on Google, people search the term "Duolingo" nine times more often than "learn Spanish." We are particularly proud that our learners come from the entire socioeconomic spectrum, ranging from billionaires and celebrities to recently resettled refugees, a rare instance in which more money does not imply better access to a high quality educational platform.

We started with a focus on teaching languages because of the profound impact learning a new language can have on people's lives, as well as the large market opportunity. According to HolonIQ, 1.8 billion people across the world are learning a new language, and in 2019, consumer spend on both online and offline language learning represented a $61 billion market. Driving much of the demand for language learning is the reality that English can unlock tremendous economic opportunity. According to the World Economic Forum, job seekers around the world with exceptional English skills can expect to earn 30-50% higher salaries than their peers with average English ability. And the power of language learning is not limited to economic advancement. Learning another language can unlock new experiences and deep human connections, ranging from navigating a first trip to another country, to communicating with family members of an older generation.

Duolingo offers courses in 40 languages to approximately 40 million monthly active users. To put our scale in context, there are more people in the United States learning languages on Duolingo than there are foreign language learners in all US high schools combined, and there are more people learning certain languages on Duolingo, like Irish and Hawaiian, than there are native speakers of those languages worldwide.

Duolingo is the learning product built for the mobile generation: bite-sized, on-demand and fun. We believe that the hardest part of learning something new is staying motivated, so we build gamification features into our platform to motivate our learners, and we run thousands of A/B tests to optimize each feature for maximum engagement. Our obsession with user experience has yielded affinity and loyalty in our learners, which in turn has helped us cultivate millions of brand advocates who tell their friends and families about our products. Indeed, our brand has become part of pop culture, appearing in internet memes and sketches on late night comedy shows. All of this has allowed us to grow our business organically, primarily relying on word-of-mouth virality rather than paid user acquisition.

Our millions of learners complete over 500 million exercises every day, creating what we believe to be the world's largest learning dataset. This data powers the high volume A/B testing and novel artificial intelligence (AI) that we use to continually improve how well we teach. According to an internal study, people who complete five "Units" of Duolingo, or roughly half of one of our courses, learn as much as students taking four university semesters of language education—and they do so in half the time.

We intentionally do not put our learning content behind a paywall. Anyone can download the Duolingo app, use it for as long as they like, and complete as many of our courses as they choose, all without paying anything. Learners who use Duolingo for free see an ad at the end of each Lesson, whereas learners who purchase Duolingo Plus, our premium subscription, enjoy an ad-free experience and access to additional features. As of March 31, 2021, approximately 5% of our monthly active users were paid subscribers of Duolingo Plus. Our paid subscriber penetration has

increased steadily since we launched Duolingo Plus in 2017 and, combined with our user growth, has led to our revenue more than doubling every year since. We have a strong future roadmap of feature improvements and optimizations, and believe we are in the early stages of increasing our paid subscriber penetration.

Our freemium business model is core to our success because it enables significant user scale. Our growth and competitive differentiation have been driven by two mutually-reinforcing flywheels: our learning flywheel and our investment flywheel.

•Learning flywheel: The greater the scale of our learner base, the more we can use insights from data analytics to improve both engagement and efficacy. The more engaging our products are, and the more effectively we teach, the more our learners tell their friends about Duolingo and the more we continue to grow our learner base.

•Investment flywheel: Our learner scale and word-of-mouth growth allow us to focus our capital investments on product innovation and data analytics, as opposed to brand or performance marketing. The more learners use Duolingo and convert into paid subscribers, the more we are able to invest in creating an even more delightful, engaging and effective learning experience. In turn, this increases our popularity and user scale, as well as the effectiveness of our data analytics, further widening our competitive moat.

In 2016, we launched our second product, the Duolingo English Test, an online, on-demand assessment of English proficiency. Every year, millions of people around the world seek to demonstrate English proficiency for a variety of reasons, including university admissions, work visas, and job applications. We developed the Duolingo English Test because language assessment has lacked innovation, with the most popular English proficiency tests still administered in physical testing centers and usually costing hundreds of dollars per test. By offering a more accessible, online option that is both rigorous and accurate, we provide greater opportunities for aspiring students and professionals dependent on successful completion of these high stakes assessments. As of May 2021, over 3,000 higher education programs around the world accept Duolingo English Test results as proof of English proficiency for international student admissions. These include 17 of the top 20 undergraduate programs in the United States according to US News and World Report—for example, Yale, Stanford, MIT, Duke and Columbia. In 2020, roughly 344,000 individual Duolingo English Tests were purchased, mostly by prospective international students.

We believe we are just getting started. As the language learning market continues to shift online and digital subscriptions become increasingly prevalent in both mature and emerging markets, we expect to grow our number of monthly active users, as well as the portion of users who pay for a subscription. We also have a significant opportunity to impact more learners around the world by extending our platform to teach subjects beyond language, such as literacy and math. We believe that the investments we have made in our technology platform and our core competencies in data analytics, product design, gamification, and assessment position us well to extend into new subject areas. In 2020, for example, we launched Duolingo ABC, an app designed to teach early literacy skills to children ages three to six.

Our business has experienced rapid growth since our founding in 2011. For the years ended December 31, 2019 and 2020, we had 27 million and 37 million monthly active users, respectively, representing year-over-year growth of 34%, and we grew our paying subscribers from 0.9 million as of December 31, 2019 to 1.6 million as of December 31, 2020, respectively, or 84% year over year. For the quarter ended March 31, 2021, we had 40 million monthly active users, and as of March 31, 2021, we had 1.8 million paying subscribers. Our revenue was $70.8 million in 2019 and $161.7 million in 2020, representing 129% year-over-year growth. Our revenue was $28.1 million in the three months ended March 31, 2020 and $55.4 million in the three months ended March 31, 2021, representing 97% period-over-period growth. In 2020 and the three months ended March 31, 2021, approximately 73% and 72%, respectively, of our revenue came from subscriptions to Duolingo Plus, approximately 17% came from advertising in both periods, and approximately 10% and 11%, respectively, came from the Duolingo English Test and other revenue. Given the momentum in our business and the size of our market opportunity, we continue to invest in product innovation and data analytics. In the three months ended March 31, 2020 and 2021, we had net losses of $2.2 million and $13.5 million, respectively. Our Adjusted EBITDA improved from $(8.0) million in 2019 to $3.6 million in 2020, and was $(0.9) million and $0.9 million in the three months ended March 31, 2020 and 2021, respectively. Our total bookings were $88.0 million in 2019 compared to $190.2 million in 2020, representing 116% year-over-year growth, and $36.9 million in the three months ended March 31, 2020 compared to $65.8 million in the three months ended March 31, 2021, representing 78% period-over-period growth.

Industry Trends

We believe the following market trends will contribute to the continued success of our platform:

Mobile-first behaviors are reshaping industries. In categories ranging from retail to music to dating, consumers are increasingly gravitating to mobile, app-based experiences. A study by Comscore showed that in 2020 mobile usage represented at least 75% of digital minutes in every region of the world, with the share continuing to rise. And mobile app usage makes up the significant majority of time spent on mobile devices: for example, almost 90% of mobile minutes in the United States are spent within apps, according to a 2020 study by eMarketer. We believe that consumer behavior will continue to be shaped by a preference for the convenient, on-demand nature of mobile experiences.

The shift towards online learning is accelerating. Historically, education has lagged behind other industries in the shift from offline to online. According to GSV Ventures, the 2019 digital learning market represented $160 billion in spend—already a sizable number, but still only 2.3% of total global education expenditures. However, the COVID-19 pandemic sparked a radical shift towards online learning, and its effects are likely to be enduring. GSV Ventures now predicts that digital learning will reach 11% of education market expenditures by 2026, representing approximately $1 trillion in spend and a 26% CAGR from 2019 to 2026.

Online learners seek engaging, mobile-first experiences. Consumers are increasingly accustomed to the highly engaging design of social media apps and mobile games. According to the Global Web Index, 95% of the global online population uses social websites or apps, and the typical user spends two hours and 25 minutes on social media every day. On the gaming front, App Annie Intelligence reports that games accounted for 36% of mobile downloads in 2020, and that users across the globe spent 296 billion hours playing mobile games that year. We believe that consumers turning to online learning will not only prefer the convenience and control that mobile apps provide, but also expect experiences to be highly engaging.

Adoption of subscription models is growing globally. Rising adoption of subscription models across the globe is further enabling the shift towards mobile experiences. According to a Zuora survey conducted by the Harris Poll, 78% of consumers globally paid for subscriptions in 2020, up from 71% in 2018. Even in Japan, the market with the lowest rate among surveyed countries, more than half of consumers pay for subscriptions, growing from 53% in 2018 to 59% in 2020. In the United States, the figure is 82%, and according to a 2020 survey by Adjust, the average US consumer spends $53 per month on digital subscriptions, including an average of four app subscriptions. We believe that as subscriptions increase in popularity across categories, consumers will also gravitate towards subscription models in online learning.

Market Opportunity

The global market for direct-to-consumer language learning is large, growing, and shifting online. According to HolonIQ, total consumer spend on both online and offline language learning represented $61 billion in 2019, and will grow to $115 billion in 2025, implying a CAGR of 11% over this period. Online language learning is the fastest-growing market segment, projected to grow from $12 billion in 2019 to $47 billion in 2025, representing a CAGR of approximately 26% over this period, and to comprise 41% of total consumer spend on language learning in 2025. We believe that growth in digital spend will be driven in part by a shift away from offline offerings, as consumers seek more affordable, convenient, and higher quality online solutions. Today, the offline market is highly fragmented, and dominated by local players offering high-priced solutions: for example, an English course at a private language institute often costs over $1,000, even in developing countries.

We also believe that growth in online language learning spend will be driven by consumers who would not have paid for offline offerings, but now choose to purchase online products. For example, according to a survey we conducted in 2021, almost 80% of Duolingo users in the US were not already learning a language when they began using Duolingo. Globally, GSMA reports that the number of mobile internet users is projected to grow from 3.8 billion at the end of 2019 to 5.0 billion by 2025. Growth in smartphone adoption can open up new access to the convenience and affordability of mobile-first learning to hundreds of millions of people.

We also have a significant opportunity to impact more learners around the world by extending our platform beyond language learning. According to HolonIQ, approximately $6 trillion was spent on education globally in 2019. And GSV Ventures reports that $160 billion was spent on digital learning, with digital spend expected to grow at a 26% CAGR from 2019 to 2026. We believe we can expand our addressable market by extending our scalable platform to other segments of learning such as literacy and math.

The Duolingo Learning Experience

The Duolingo learning experience sits at the rare intersection of fun and self-improvement. Learners love Duolingo because:

•It's fun. Duolingo feels more like a mobile game than an education product. Our bite-sized lessons and gamification features motivate learners to come back each day to continue learning.

•It's effective. Learners stick with Duolingo at first because it’s fun, and then over time also because they find that it works. Our expert-designed courses help learners build robust speaking, reading, listening, and writing skills, and our data analytics power personalization and superior learning outcomes.

•It's free. Every language course on Duolingo is free to access. Learners can spend as much time learning as they want and complete any and every course without paying. This lowers barriers to start learning and to keep learning.

In a world where people are increasingly engaged in immersive, bite-sized, mobile-first experiences, we provide such an experience that also results in learning valuable skills. Indeed, many of our learners prefer to spend time on Duolingo rather than on social media or mobile games because they can learn while still feeling entertained.

Product Features

As of May 2021, Duolingo offered 40 language courses. Each course is made up of a number of elements:

•Skills. Skills appear as colorful circles in the Duolingo home screen. Each Skill introduces new vocabulary, grammar concepts, and linguistic constructs. As learners progress, more advanced Skills unlock. Skills are grouped into sections called “Units,” with each Unit followed by a brief quiz that helps evaluate the efficacy of that Unit’s curriculum.

•Levels. Each Skill is divided into five Levels, and each Level provides learners practice on the same content, but with progressively more challenging exercises. The color of a Skill changes when a learner levels up, ultimately turning gold when reaching Level 5. Learners have to complete Level 1 of a Skill in order to unlock the next row of Skills.

•Lessons. Each Level consists of a number of engaging, bite-sized Lessons that implicitly teach the vocabulary and linguistic concepts associated with that Skill. Lessons include a variety of types of exercises that help learners practice different aspects of language. For example, we use speech recognition for pronunciation practice, images for vocabulary practice, and synthesized voice for listening comprehension practice. Exercises for each Lesson are selected and sequenced in real time using AI-based algorithms that personalize each Lesson to each individual learner.

•Tips. Tips are short text explanations designed to explicitly teach the concepts that might be hard to grasp when introduced implicitly in Lessons. Tips illuminate concepts in grammar, phonetics, and orthography, and may include descriptions of language rules, example sentences, and audio-enhanced pronunciation guides.

Courses are supplemented by additional in-app features that help learners practice reading and listening comprehension. These include:

•Stories. Stories are short, engaging dialogues presented with both text and audio that expose learners to conversational language and support practice of both reading and listening comprehension. Stories usually depict entertaining situations featuring our iconic cast of characters, and are unlocked as learners progress through the course, ensuring that learners only access Stories appropriate for their proficiency level.

•Audio lessons. Audio-only lessons allow learners to spend focused time developing listening comprehension skills and practicing speaking. Audio lessons are centered around practical, real-world situations like ordering at a restaurant or asking for directions.

Our courses and learning features are integrated with our gamification mechanics, which keep learners engaged and motivate them to spend more time learning. These gamification mechanics include:

•XP. Learners earn Experience Points, or "XP," for completing learning activities in Duolingo. The longer or more challenging the activity, the more XP they gain. For example, a single Lesson usually earns learners 10 XP, whereas the completion of a Story usually earns 20 XP.

•Streaks. A streak represents the number of days in a row that a learner has used Duolingo, and appears as a flame icon in the app. Each day a learner gains XP, their streak gets one day longer. Streaks are a powerful motivator to keep learners coming back every day.

•Crowns. Learners collect crowns upon completion of a Level of a Skill. Accumulating a certain number of crowns unlocks additional features, such as Stories.

•Gems. Gems are the Duolingo virtual currency, which rewards learners for accomplishments like leveling up a Skill. This currency allows learners to buy virtual items from our "Shop," including a "Streak Freeze," which maintains a learner's streak even if they miss a day of practice.

•Leaderboards. Leaderboards are weekly cohorts of 30 learners who compete to earn the most XP. Leaderboards are organized into Leagues based on the volume of XP earned, starting with the Bronze league, and ending with the Diamond league for the highest XP earners. Each week, the top 10 learners in each Leaderboard advance to the next League. Learners can track their Leaderboard progress daily and are motivated to accumulate XP to earn a place in the top 10.

•Hearts. Hearts ensure that learners are mastering content as they progress through a course. Learners start each day with five Hearts, and then lose a heart for each exercise completed incorrectly. If a learner runs out of Hearts, they can earn them back by completing practice Lessons that review previously studied material. And if they run out of Hearts mid-Lesson, they can also use their hard-earned stockpile of Gems to replenish their supply.

Learners who use Duolingo for free see an ad at the end of each Lesson, whereas those who subscribe to Duolingo Plus enjoy an ad-free experience and access to additional features, such as unlimited Hearts and personalized practice sessions covering recent mistakes.

Our Product Philosophy

Each of our learning and gamification features is carefully crafted to contribute to a learner experience that is defined by several key principles:

Low friction. Beginning the learning journey on Duolingo is easy. Learners select the language they want to learn and are asked to indicate a daily learning goal, which can be as little as five or ten minutes a day. They can then choose to start learning a language from the basics or test their existing proficiency to skip ahead in the course. We ensure that our onboarding journey is as intuitive as possible by continually reviewing the actions of new learners as they navigate our app for the first time. Duolingo is recognized as a gold standard for user experience design, with our onboarding flows used as examples of industry best practices. We also run hundreds of A/B tests to remove friction and make it easier for learners to subscribe to Duolingo Plus.

Motivating game mechanics. Because we believe that staying motivated is the hardest part of learning something new, we focus relentlessly on keeping learners engaged. Features like Streaks and Leaderboards motivate learners to come back to Duolingo every day, and to spend more time learning each time they do. Over 50% of our daily active users have a Streak longer than seven days. And approximately one million learners have an active Streak longer than 365 days, meaning they have used Duolingo daily for at least one year. Launching Leaderboards, which encourage both social connectivity and competition, increased the overall average time spent learning on Duolingo by almost 20%. Ultimately, the high engagement driven by gamification leads to consistent learning and demonstrable efficacy.

Beautiful design and engaging storytelling. We focus obsessively on every detail of design. From the precise shape and color of each button, to the mood of the celebratory animations that congratulate learners upon finishing each Lesson, our app is calibrated to maximize learners' delight. Over the years, our owl mascot, Duo, has become a popular brand icon and a marketing asset for our company. In 2019, we introduced an additional cast of characters to the app, each with their own personality and backstory. Our iconic characters now feature prominently in our

Lessons and Stories, cheering learners on as they progress. Already, our characters are regularly the subject of “fan art” created by Duolingo learners and shared on social media. We believe that recognizable characters and character-driven storytelling increase learner engagement and stickiness. As our product offering grows to include additional types of learning, our characters will become a common asset unifying the different learning experiences, such as Duolingo ABC.

Diverse learning experiences informed by robust pedagogy. Our learning experiences are designed by an in-house team of experts in learning science and second language acquisition. Content in our largest courses is aligned to the Common European Framework of Reference (CEFR), an international standard for language proficiency, and the pedagogical structure of each course is unique. For example, Spanish-speakers learning English will encounter a different curriculum than Chinese-speakers learning English. Within each course, each Skill covers the vocabulary and grammar required to achieve a particular learning goal. We teach primarily implicitly: for example, instead of requiring learners to memorize verb conjugation tables, we teach grammar through illustrative examples. Implicit learning is ideal for developing a strong foundational knowledge of a language and its rules. For concepts that may be more challenging to grasp purely through implicit learning, we also provide explicit instruction in the Tips that accompany each Skill.

We also leverage our large scale of learner data to inform continuous improvement of our learning content. For example, each time a learner finishes a Unit, they complete a brief assessment before unlocking Skills in the next Unit. This “Checkpoint Quiz” provides us with a way to assess the efficacy of each course, and enables targeted improvements if we discover that learners are not achieving mastery over a specific concept or grammatical structure.

We also offer a diverse set of experiences to build language proficiency outside of the app, such as our podcasts, which provide a scaffolded listening comprehension experience for more advanced learners. The Duolingo Spanish podcast is consistently among the top five education podcasts in the US on the Apple Podcast platform.

Application of data analytics and artificial intelligence to optimize learning. We use data from over half a billion exercises completed daily to train sophisticated machine learning algorithms that we deploy to improve learning efficacy. One example of this is our personalization algorithm, called BirdBrain, which predicts the probability that a given learner will get an exercise right or wrong. We use BirdBrain to craft lessons that cater to a learner’s specific proficiency level by providing exercises of the appropriate difficulty. For instance, if a learner only has a 30% chance of getting an exercise right, this exercise is too difficult and would cause frustration. Conversely, if a learner has a 100% chance of getting an exercise right, then the exercise is not interesting to the learner and has little learning value. In our dynamic, real-time creation of a lesson for this particular learner, we would not include either these “too hard” or “too easy” exercises. Rather, we target exercises that are “just right” in difficulty, making lessons more engaging, while specifically targeting material that learners have not yet mastered. This personalization increases learner motivation and improves learning outcomes.

Measurable learning outcomes. All this adds up to a learning experience that helps learners achieve their goals. In 2020, we conducted a formal study to evaluate Duolingo’s effectiveness versus traditional university language courses. We measured Duolingo learners’ results on French and Spanish listening and reading proficiency tests from the American Council on the Teaching of Foreign Languages (ACTFL) against those of US university students who had completed four semesters of French or Spanish. To ensure a fair comparison, we included only US-based Duolingo learners who: (1) had no prior knowledge of Spanish or French before starting Duolingo, (2) had only completed the first five Units of their chosen Duolingo course, and (3) were not using any other materials to learn besides Duolingo. We found that the Duolingo learners earned proficiency scores comparable to those of the US university students at the end of their fourth semester of French or Spanish. Moreover, the Duolingo learners were able to attain this level of proficiency in about half the time as the university students.

Our Technology Platform

Technology is at the core of everything we do. We utilize the latest in machine learning and data analytics, along with a relentless focus on A/B testing, to fuel our differentiated learning experience.

We are proud to consider ourselves a technology and product-driven company—70% of our employees work directly on improving our products. We have an industry-leading team of approximately 280 software engineers, product designers and product managers. Approximately 20% of them are on functional engineering teams, building and maintaining foundational infrastructure, and approximately 80% are on product teams, iterating on features as well as researching and prototyping new product directions.

Highlights of our technology platform include:

Large data moat. With over half a billion exercises completed every day on our platform, we believe we have built the world's largest collection of language-learning data. We leverage this data by developing novel AI models at the intersection of machine learning, natural language processing, and cognitive science, which enable personalized instruction and power new product features that drive both engagement and efficacy. The majority of the data we collect for analytics purposes is in the form of tracking events, which are pieces of data associated with a specific learner action, such as opening the app or completing a Lesson. A tracking event tells us when a learner performed an action, as well as related details, such as the device they were using. The Duolingo app is instrumented on all platforms with code that generates tracking event data for all events of interest. We generate approximately 2.3 billion tracking events per day, broken down into about 1,500 unique event types.

Robust testing framework. The foundation of our product strategy is our relentless focus on improving learner engagement through A/B testing, and we run hundreds of A/B tests on new product features each quarter. Experiments can be as simple as changing the text or color of a button, or as complex as adding a major new feature like Leaderboards. The velocity of our A/B testing capabilities is a core competency that allows us to optimize the Duolingo learning experience at a rapid pace. Through A/B testing, we have increased the fraction of learners who came back one day after starting Duolingo from 12% when we first launched in 2012, to over 40% today. A/B tests also provide us with the data to make decisions that positively impact paid subscriber conversion.

Advanced data analytics and machine learning capabilities. Our machine learning capabilities allow us to leverage our data to optimize the learning experience. One example of this is our "student model," called BirdBrain, which evaluates every learner's answer to every exercise every day and learns to predict the probability that any learner will answer any given exercise correctly. We use BirdBrain predictions to adaptively construct lessons where each exercise is "just right" in terms of difficulty for each learner. Another example is our "Smart Tips" system, which uses an AI model to classify common learner mistakes and then briefly interrupts lessons with a relevant "just in time" grammar explanation when needed. Instead of asking learners to repeatedly read through conjugation tables, we accurately classify their mistakes and surface a grammar rule when it is most useful and engaging—right after they make a mistake.

Shared infrastructure. Products across our platform, like our flagship Duolingo language learning app, Duolingo ABC, and the Duolingo English Test, share a singular technology infrastructure, which allows us to leverage operational efficiencies in implementing new features for each. With our shared infrastructure, we are able to innovate at a higher velocity.

Strict data protection and privacy standards. We are committed to abiding by the strictest privacy standards and do not sell personal data to outside parties.

Our Strengths

We believe the following strengths will drive our continued success in the global language learning market and beyond:

Product-obsessed culture focused on creating a fun, engaging experience. We use sophisticated gamification and beautiful design to make our products fun and engaging, inspiring learners to come back day after day to learn on our platform. Through animation, storytelling, and motivating features such as Streaks and Leaderboards, we provide our learners with an experience that both delights and drives quantifiable learning progression. We believe our high quality user experience and track record of product innovation are a testament to our product leadership and capabilities for future growth.

Leading consumer brand. Our free, fun, and effective learning experience has made us a category-leading brand in consumer education, which in turn drives organic traffic to our platform and minimizes our reliance on paid marketing. In 2020, approximately 90% of our growth came from organic sources such as word-of-mouth. Our iconic mascot, Duo the owl, is loved by our learning community, and our app has become a part of popular culture. We believe our brand provides us a significant competitive advantage, which we further cultivate via continuous investment in our delightful learner experience.

Deep data analytics capabilities. Data from over 2.3 billion tracking events generated every day by our learners informs the more than 500 A/B tests we run per quarter. These A/B tests enable us to rapidly launch product optimizations and new features that materially improve engagement, learning outcomes, and paid subscriber conversion.

Superior learning outcomes through personalized learning. We also leverage our massive collection of language-learning data to develop novel artificial intelligence models at the intersection of machine learning, natural language processing, and cognitive science. These in turn power our personalized instruction model, BirdBrain. Our A/B testing has demonstrated that BirdBrain-powered experiences drive superior learner engagement and stronger learner outcomes. And research validates the efficacy of our product: Duolingo learners who complete five Units of Duolingo French and Spanish courses earn reading and listening proficiency scores comparable to those of US university students at the end of their fourth semester of language courses, and in about half the time.

Powerful flywheel effects powered by a strong business model. Our mutually reinforcing Learning and Investment flywheels drive efficient growth on our platform while widening our competitive moat. Our freemium business model allows free learners on Duolingo to develop a regular habit of using our product, ultimately leading to high quality paid conversion. It also enables the large audience and data scale that powers our data analytics and machine learning algorithms, resulting in high user engagement and strong learning outcomes. Demonstrated efficacy in turn strengthens our brand, enabling us to reach a broader audience via word-of-mouth. This gives us the ability to focus our capital investments on long-term product improvements rather than short-term direct-response marketing.

Highly scalable platform. We are a technology-driven company and have invested deeply in developing our scalable, mobile-first platform. Our in-house authoring tools enable efficient creation of standards-aligned learning content, and our assessment capabilities enable continuous improvement of each course. Our proprietary data and analytics infrastructure generates the insights that increase learner engagement and deliver superior learning outcomes. Our technology infrastructure and freemium subscription model are built to scale effectively as we continue to grow our learner base, and our platform is an asset that we believe can be applied to new learning categories.

Strong profitability and cash flow dynamics drive long-term value. Our business model, which is focused on organic growth and "free to paid" conversion, results in efficient and relatively low marketing expenses. We expect this efficiency, combined with our high gross margins and technology infrastructure, to provide significant operating leverage over the long term, resulting in margin expansion, while allowing us to

continue to invest in our brand, product innovation, and technology platform.

Mission-driven, founder-led management team. Duolingo is led by passionate co-founders and a leadership team of seasoned executives with a proven track record of scaling consumer technology businesses. Our mission is integral to every decision we make, from the product features we launch, to new product extensions. We are aligned, inspired, and energized by the opportunity to continue building a next-generation consumer technology brand and preeminent global learning platform.

Our Growth Opportunities

We believe that we have a significant opportunity before us, both to further our mission and to strengthen our business and grow our revenue. Our growth opportunities include not only expanding our scale within the language learning market, but also leveraging the core competencies of our platform and brand to expand into new markets. We are focused on the following to drive our growth:

Continue expansion of learners on our platform. According to HolonIQ, there are approximately 1.8 billion people learning a language in the world, representing a $61 billion consumer market in 2019. The majority of spend today is still offline, but the market is rapidly shifting online, with online spend projected to reach $47 billion in 2025. As a category leader in digital language learning, we believe we are well positioned to continue to grow the number of learners who use our platform. Our audience is globally distributed. For example, as of March 2021, 54% of our MAUs were learning English, and 37% were learning other languages using our English UI; 9% were neither learning English nor using our English UI. We are in the early stages of penetrating key international markets, including Europe, Asia, and Latin America. In 2020, we established teams focused on international markets. These teams have driven growth by investing in product optimizations, localization improvements, and local marketing. In Asia, for example, our investments contributed to 136% growth in DAUs from 2019 to 2020.

Drive higher conversion to paid subscriptions. We have steadily increased Duolingo's paying subscriber conversion since launching our subscription in 2017. As of December 31, 2020, approximately 4% of our 37 million monthly active users pay for a subscription, up from less than 1% in 2017. We believe our ongoing investment in product improvements, as well as rollout of new premium features, will continue to increase the conversion of free users to paying subscribers. In addition, continued optimizations of purchase flows, subscription packaging, and pricing, will reduce the friction to subscribe. We believe we have the opportunity to increase monetization in markets across the globe, both in affluent English-speaking markets such as the United States and United Kingdom, and also among English learners worldwide.

Increase the lifetime value of our subscribers. As we continue to expand Duolingo's subscriber base, we are also focused on subscriber stickiness, which drives the lifetime value of our subscribers. The primary way we improve subscriber stickiness is through product improvements that increase engagement, like Leaderboards and Streaks. Increasing the proportion of our subscriber base that is on an annual plan also increases lifetime value. We have experimented with our pricing and packaging to encourage more subscribers to buy the annual plan, resulting in a 14 percentage point increase in annual subscribers, from approximately 57% of total paying subscribers as of December 31, 2019 to approximately 71% of total paying subscribers as of December 31, 2020. This shift also improved paying subscriber lifetime value overall.

Expand adoption of the Duolingo English Test. The Duolingo English Test experienced a transformational year in 2020, with the number of individual tests purchased increasing from approximately 17,000 in 2019 to approximately 344,000 in 2020. Physical testing centers for other English proficiency exams closed during COVID-19 lockdowns, which led more universities to accept the results of the Duolingo English Test as proof of English proficiency for international student admissions. Before COVID-19, approximately 600 higher education programs accepted the results of our assessment, and as of May 2021, the figure was over 3,000. We believe this represents a shift in our market position that will endure beyond the COVID-19 pandemic.

Millions of English proficiency tests are taken each year across the globe. We believe there is a significant opportunity to continue expanding adoption of the Duolingo English Test via three primary avenues: (1) continuing to expand acceptance by higher education programs for international student admissions; (2) accessing immigration and workforce markets in countries that require English proficiency assessment as a part of the visa approval or job recruiting and promotion processes; and (3) integrating with the Duolingo language learning app to provide our English learners with a more seamless experience between learning and assessment. Longer term, we plan to introduce a "Duolingo Proficiency Score" across more languages, which we hope will become a widely accepted indicator of language proficiency level and make Duolingo a global proficiency standard.

Extend our platform and brand beyond language learning. We believe that there is an opportunity to diversify the scope of our platform beyond language learning to a variety of subjects, using the same product-focused, mobile-first, gamified approach to education. For example, in 2020 we launched Duolingo ABC, an app for young children that teaches early literacy skills, which won the 2020 Time Magazine "Best New Product" award. New products such as Duolingo ABC will leverage our scalable technology platform and benefit from our core competencies in product development, gamification and use of advanced data-driven analytics to deliver quantifiable efficacy. We believe that expanding the scope of our platform to additional learning subjects will further expand our addressable market.

Our Solutions

The Duolingo Language Learning App

The Duolingo language learning app is the world's most popular way to learn languages. Accessible for free, as of May 2021 it offers courses in 40 languages to approximately 40 million monthly active users. It is also the top-grossing app globally in the Education category on both Google Play and the Apple App Store. Duolingo can also be accessed by desktop computers via a web browser at https://duolingo.com.

Designed by language experts, Duolingo courses are made up of Skills, each of which are divided into five Levels, with each Level made up of a series of Lessons. Each Lesson consists of short, bite-sized exercises that help learners practice reading, writing, speaking and listening skills. Courses are supplemented by additional in-app learning features such as Stories and Audio Lessons, which provide additional reading and listening comprehension practice. Duolingo's gamification features, including XP, Streaks, Crowns, Gems, Leaderboards and Hearts, provide learners an engaging and fun learning experience, and keep them motivated to continue learning.

As of May 2021 we offer language courses in English, Spanish, French, German, Japanese, Italian, Korean, Chinese, Portuguese, Russian, Dutch, Arabic, Swedish, Turkish, Hindi, Norwegian (Bokmål), Greek, Polish, Welsh, Irish, Latin, Danish, Hebrew, Finnish, Scottish Gaelic, Yiddish, Vietnamese, Indonesian, Czech, Esperanto, Catalan, Romanian, Hungarian, Swahili, Hawaiian, Ukrainian, Guarani, Navajo, and even Klingon and High Valyrian.

Duolingo Plus

While all course content on Duolingo can be accessed for free, our subscription offering, Duolingo Plus, offers learners additional features to enhance their learning experience. We launched Duolingo Plus in 2017 and as of December 31, 2020, we have approximately 1.6 million paying subscribers. This revenue stream makes up approximately 73% of our total revenue. As of May 2021, Duolingo Plus offers the following features:

•No ads. Duolingo Plus eliminates the ads that non-subscriber users see at the end of each Lesson, giving subscribers the benefit of uninterrupted learning.

•Unlimited Hearts. With no limits to the number of mistakes they can make, subscribers can choose to move through content at their own pace.

•Mistakes practice. Subscribers can sharpen their language skills with personalized practice Lessons featuring their recent mistakes.

•Unlimited test out. Subscribers can skip multiple Levels of a Skill to get to new material faster by completing skill tests and jumping to the next Level.

•Progress tracker. Subscribers can take Mastery Quizzes to measure how much they have learned over time.

Duolingo English Test: AI-Driven Language Assessment

Launched in 2016, the Duolingo English Test is a pioneering online, on-demand, high-stakes English proficiency assessment. Anyone with a computer, webcam, and reliable internet connection can take the test from anywhere, at any time. The test is "computer adaptive," meaning it gets harder or easier depending on the performance of the test taker, and can be completed in less than an hour. As of May 2021, it costs $49 per test.

We saw an opportunity to develop the Duolingo English Test in part because language testing has lacked innovation—the most popular English proficiency tests were developed decades ago. These tests must be taken in physical testing centers and usually cost hundreds of dollars per test, which is inconvenient for test-takers everywhere, and prohibitive for many, particularly in emerging economies.

The Duolingo English Test uses AI and machine learning for question generation, adaptive administration, and automated grading, as well as AI assistance for proctoring and security. For example, each exam dynamically administers questions from a database of tens of thousands of items based on the demonstrated proficiency of the test-taker, minimizing the exposure of test questions and ensuring that no two test takers receive the same exam. Our pioneering research allows us to offer the Duolingo English Test affordably and on-demand, while ensuring it is valid, reliable, and secure.

Duolingo Events

Our virtual Duolingo Events are online gatherings that bring together language learners from around the world for fun, casual conversation practice. Our volunteer Event hosts are passionate and enthusiastic Duolingo learners who are willing to share their language skills and connect with language learners around the world. Accessible via our website, Events are free to attend for our learners and provide them an opportunity to practice language skills with fellow learners.

Duolingo Podcast

Our Duolingo podcasts help develop listening comprehension skills by leading learners through fascinating, true-life stories from around the world. Available on Spotify, Apple Podcasts, YouTube, Google Podcasts, and on our website, our podcasts are targeted at intermediate language learners, with slowed-down storytelling and scaffolding in the learner's native language. Learners can also read along with transcripts online. We presently provide Spanish and French podcasts for English-speakers, and an English podcast for Spanish-speakers. The Duolingo Spanish podcast is consistently among the top five education podcasts in the United States on the Apple Podcast platform.

Duolingo For Schools

Duolingo for Schools is a free web-based tool that makes it easier for teachers to use our platform in a structured learning environment. With Duolingo for Schools, teachers can create a dashboard for a class, assign specific Duolingo content to students in the class, and track students' progress through the content. Based on a 2020 survey, we believe that almost 40% of foreign language teachers in US K-12 schools use Duolingo in their classrooms in some form.

Duolingo ABC

Introduced in 2020, Duolingo ABC is a free app that teaches children ages three to six early literacy skills. Developed by learning experts, the app includes over 300 fun, bite-sized lessons that guide children on a step-by-step path to reading. Duolingo ABC is aligned with the Common Core State Standards, and is designed based on recommendations by the National Reading Panel. In creating Duolingo ABC, we have taken our expertise in gamified learning and applied it to teaching the fundamentals of literacy. Lessons feel like games, while at the same time teaching young children fundamental skills including phonics, phonemic awareness, fluency, and comprehension. The app's design is intuitive and children can use it either with an adult or on their own, without supervision.

People and Culture

Attracting and retaining amazing talent is key to our success. As of May 31, 2021, we had over 400 employees. Most of our employees are located at our headquarters in Pittsburgh, Pennsylvania, and we also have offices in New York, Seattle, and Beijing. We believe that being located outside of Silicon Valley has helped us cultivate a unique company culture.

When Luis von Ahn and Severin Hacker started Duolingo, they thought deeply about the kind of culture and work environment that they wanted. Knowing that we spend most of our lives working, they wanted to create a workplace where everyone looked forward to coming to work every day. They also wanted a workplace with a diverse group of people who are smart, hard-working, and inspiring—but who also don't take themselves too seriously.

Fundamental to Duolingo's culture is our mission orientation. Our mission tends to attract a certain kind of person. Our employees have a very strong sense of social responsibility and are interested in solving hard problems for the benefit of humanity. Over time, we have also developed nine "operating principles" that articulate our values as a company and help guide how we make decisions.

As a result of our mission, our culture, and the challenges we work on every day, we believe we have had great success in attracting the best talent. We have a very selective recruitment process: we hire one out of every 353 applicants. We recruit interns and new graduates from the top computer science, design, and business programs in the country. We also recruit experienced professionals from top technology companies—and many of them relocate from Silicon Valley to Pittsburgh. We have an offer-to-accept ratio of 85% for industry hires, which we believe is a direct reflection of the power of our mission.

Employees also stay at Duolingo for a long time. In 2020, our employee attrition was a record low: four employees, or under 2% of our workforce. In 2019, our yearly attrition was approximately 6%. We believe that the longevity of our employees provides us with a key advantage.

Diversity, Equity, Inclusion, and Belonging (DEIB) is also core to who we are. We are proud to say that Duolingo was founded by two immigrants and that our employees come from over 30 countries. More than half of our employees are women-identifying or people of color. A third of our C-suite executives are women-identifying, including our Senior Vice President of Engineering. Today, our engineering organization is almost 30% women-identifying. Our board of directors includes four women-identifying directors, including the chair of our audit, risk and compliance committee, one director who identifies as LGBTQ, and one Black director. While we are proud of the diversity we have achieved so far, we also know that we still have more we need to do.

Sales & Marketing

For almost a decade, Duolingo's learner community has grown organically through word-of-mouth virality. In recent years, we have made investments in marketing to supplement our organic model and amplify the voices of our existing users. Key elements of our sales and marketing strategy include:

•Brand campaigns. Our brand marketing increases awareness of Duolingo through online and offline campaigns that drive press, social sharing, and more word-of-mouth virality. For example, in December 2020, we launched our New Year's 2021 campaign, our largest ad campaign to date, delivering a unified brand message across multiple international markets that resulted in an increase in aided brand awareness of 6% in the United States, 3% in the United Kingdom, and 3% in Mexico. Investments in our brand enable us to drive long-term growth by attracting new learners to our platform and keeping existing learners engaged.

•Owned media marketing. Our owned media marketing engages our learner community, creating millions of brand advocates who drive word-of-mouth virality by sharing their love of Duolingo within their networks. We send our learners personalized emails and push notifications that provide progress reports, lesson reminders, and sometimes a simple message of positivity to encourage them to remain engaged.

•Paid acquisition. We complement and accelerate our organic user acquisition with strategic and targeted paid marketing spend. Our paid acquisition strategy is focused on targeting high quality user segments that are more likely to subscribe and on investing in new markets to kickstart our organic growth.

•Geographic expansion. In markets where our organic awareness is relatively low and opportunity for growth is strong, we hire experienced local marketing managers and engage in localized social media and influencer-led campaigns, app store optimization, and paid advertising to generate interest in our products and drive new learner growth.

Competition

We believe that our relentless focus on building an engaging and effective language learning product, powered by our freemium model, has led to a leading market position, as measured by downloads, active users, and brand awareness. However, learners have a variety of options when choosing to learn a language. We compete for learners' time, attention, and share of wallet not only with other online and app-based language learning platforms but also with offline forms of language learning. Because of the extensibility of the Duolingo platform beyond language learning, we also compete with language learning assessment providers and literacy platforms.

We believe that our ability to compete successfully depends primarily on the following factors:

•Continued growth in internet access and mobile adoption around the world;

•Our ability to continue to increase our learner base through organic, word-of-mouth growth;

•Our ability to maintain the value and reputation of our brand;

•The scale, growth and engagement of our learners relative to those of our competitors;

•Our ability to introduce new, and improve on existing, features and products in response to competition, learner preferences, and market and industry trends; and •Our ability to continue developing new monetization features and improving on existing features.

Intellectual Property

We own several trademarks that have been registered, or for which registration applications are pending, in the United States as well as in a number of foreign jurisdictions. These trademarks include, among others, the word marks "Duolingo" and Duolingo in Chinese, and certain logos used in connection with our business, including our mascot Duo. The registrations of these trademarks are effective for varying periods of time and may be renewed periodically provided we comply with all applicable renewal requirements, including, where necessary, the continued use of the trademarks in the applicable jurisdictions in connection with certain goods and services. We may consider pursuing trademark registrations for additional marks and for additional jurisdictions if and to the extent we believe such registrations would be beneficial to our business and cost-effective.

In addition to trademark protection, we have registered several domain names, including www.duolingo.com, and we own several registered copyrights covering logos and characters used in our business, including Duo. We also enter into, and rely on, confidentiality and proprietary rights agreements with our employees, consultants, contractors and business partners to protect our trade secrets, proprietary technology and other confidential information. We further protect the use of our proprietary technology and intellectual property through provisions in both our user terms of use on our website and in our agreements with service providers. For information regarding risks related to our intellectual property, please see "Risk Factors—Risks Related to Our Intellectual Property."

Government Regulation

We are subject to many US federal and state and foreign laws and regulations, including those related to privacy, rights of publicity, data protection, payment processing, disability rights, digital accessibility standards, content regulation, intellectual property, health and safety, competition, protection of minors, consumer protection, and taxation. These laws and regulations are constantly evolving and may be interpreted, applied, created, or amended in a manner that could harm our business. In addition, the application and interpretation of these laws and regulations often are uncertain, particularly in new and rapidly evolving industries.

We collect and use personal information to create online accounts, process e-commerce transactions, provide customer service, support, and for other purposes. The regulatory framework for data protection, privacy and information security is evolving rapidly. The US Federal Trade Commission (FTC) and many state attorneys general are applying federal and state consumer protection laws to require that the online collection, use and dissemination of data, the presentation of website or other electronic content, and comply with certain standards for notice, choice, security and access. Courts may also adopt these developing standards. A number of states, including California and Virginia, have enacted laws or are considering the enactment of laws governing the personal information received from consumers, or imposing new requirements around the collection, use, sharing, and handling of data collected from or about consumers or their devices. In many cases, the specific limitations imposed by these standards are subject to interpretation by courts and other governmental authorities. For example, the California Consumer Privacy Act (CCPA) went into effect on January 1, 2020. The CCPA requires covered companies to, among other things, provide new disclosures to California consumers and afford such consumers new abilities to opt-out of certain sales of personal information. Additionally, the CPRA, a new privacy law that significantly modifies the CCPA, was passed by California voters in November 2020. Aspects of the CCPA, the CPRA and other laws and regulations relating to data protection, privacy, and information security, as well as their enforcement, remain unclear, and we may be required to modify our practices in an effort to comply with them. The CCPA and CPRA could mark the beginning of a trend toward more stringent privacy legislation in the United States. The CCPA has already prompted a number of proposals for federal and state privacy legislation that, if passed, could increase our potential liability, add layers of complexity to compliance in the US market, increase our compliance costs and adversely affect our business.

The Children's Online Privacy Protection Act (COPPA) applies to operators of commercial websites and online services directed to US children under the age of 13 that collect personal information from children and operators of general audience sites with actual knowledge that they are collecting information from US children under the age of 13. Our services are not directed at children and we employ an age-gating procedure whereby anyone from the United States identifying themselves as being under the age of 13 during the registration process is directed to a separate ad-free portion of the service, with special enrollment procedures and restricted information practices. We also apply age-gating for non-US subscribers according to foreign laws.

A determination by a state, federal or local agency or court that any of our practices do not meet these legal requirements or standards could result in liability and adversely affect our business. New interpretations of these standards could also require us to incur additional costs and restrict our business operations.

We have many subscribers who access and pay our services from outside the United States. Foreign data protection, e-commerce, privacy, consumer protection, content regulation and other laws and regulations are often more restrictive or burdensome than those in the United States, and those governments may attempt to apply such laws extraterritorially or through treaties or other arrangements with US governmental entities. We might unintentionally violate such laws, such laws may be modified and new laws may be enacted in the future which may increase the chance that we violate them unintentionally. Any such developments, or developments stemming from enactment or modification of other laws, or the failure to accurately anticipate the application or interpretation of these laws could create liability to us, result in adverse publicity and negatively affect our business. For example, in the EEA we are subject to the GDPR and in the UK we are subject to the UK GDPR. The GDPR and the UK GDPR impose strict data protection compliance requirements including: providing detailed disclosures about how personal data is collected and processed (in a concise, intelligible and easily-accessible form); demonstrating that an appropriate legal basis is in place or otherwise exists to justify data processing activities; granting new rights for data subjects in regard to their personal data (including the right to be "forgotten" and the right to data portability), as well as enhancing data subject rights (e.g., data subject access requests); introducing the obligation to notify data protection regulators or supervisory authorities (and in certain cases, affected individuals) of significant data breaches; defining for the first time pseudonymized (i.e., key-coded) data; imposing limitations on retention of personal data; maintaining a record of processing activities; and complying with the principle of accountability and the obligation to demonstrate compliance through policies, procedures, training and audit. Non-compliance with the GDPR and the UK GDPR may attract substantial monetary penalties. In particular, fines for the most serious violations can amount up to the greater of €20 million/£17.5 million or, in the case of an undertaking, 4% of the total annual global turnover of the preceding financial year. Complying with the GDPR and the UK GDPR may cause us to incur substantial operational costs or require us to change certain business practices.

Our Facilities and Space

We lease approximately 47,000 square feet in multiple facilities in Pittsburgh, Pennsylvania where we operate our headquarters. Our headquarters currently accommodates our principal executive, development, engineering, product, marketing, business development, human resources, finance, legal, information technology and administrative activities.

Outside of Pittsburgh, we and our subsidiary in China use co-working space as needed for the business. As of March 31, 2021, we have membership agreements with WeWork for offices in or near New York, Seattle, Beijing, and Tokyo.

We believe that our existing facilities are sufficient for our current needs. We believe that suitable additional or substitute space will be available as needed to accommodate changes in our operations.

Legal Proceedings

We are currently involved in, and may in the future be involved in, legal proceedings, claims, and government investigations in the ordinary course of business. These include proceedings, claims, and investigations relating to, among other things, regulatory matters, commercial matters, intellectual property, competition, tax, employment, pricing, discrimination, and consumer rights.

Depending on the nature of the proceeding, claim, or investigation, we may be subject to monetary damage awards, fines, penalties, or injunctive orders. Furthermore, the outcome of these matters could materially adversely affect our business, results of operations, and financial condition. The outcomes of legal proceedings, claims, and government investigations are inherently unpredictable and subject to significant judgment to determine the likelihood and amount of loss related to such matters. While it is not possible to determine the outcomes, we believe based on our current knowledge that the resolution of all such pending matters will not, either individually or in the aggregate, have a material adverse effect on our business, results of operations, cash flows, or financial condition.

Management

Executive Officers and Directors

The following table provides information, as of June 15, 2021, regarding our executive officers and directors:

Name	Age	Position
Executive Officers:		
Luis von Ahn	42	President, Chief Executive Officer, Co-Founder, and Director

Severin Hacker	36	Chief Technology Officer, Co-Founder, and Director
Matthew Skaruppa	39	Chief Financial Officer
Robert Meese	44	Chief Business Officer
Natalie Glance	53	Senior Vice President, Engineering
Stephen Chen	47	General Counsel
Non-Employee Directors:		
Amy Bohutinsky(1)(3)		Director
Sara Clemens(2)(3)	49	Director
Bing Gordon(2)	71	Director
Gillian Munson(1)	50	Director
Jim Shelton(1)(3)	53	Director
Laela Sturdy(1)	43	Director

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(1)Member of the audit, risk and compliance committee.

(2)Member of the compensation and leadership committee.

(3)Member of the nominating and corporate governance committee.

Executive Officers

Luis von Ahn, Ph.D. has served as a member of our board of directors and as our Chief Executive Officer since August 2011, when he co-founded Duolingo with Dr. Hacker. Prior to founding Duolingo, he served as the Chief Executive Officer of reCAPTCHA, Inc., a fraud detection technology company, from 2007 until its acquisition by Google in 2009. Dr. von Ahn has served on the board of directors of Root, Inc., a publicly-traded technology company focusing on personal insurance, since October 2020. Dr. von Ahn holds a B.S. in Mathematics from Duke University and a Ph.D. in Computer Science from Carnegie Mellon University. We believe Dr. von Ahn is qualified to serve as a member of our board of directors because of his perspective and experience building and leading our business as co-founder and Chief Executive Officer.

Severin Hacker, Ph.D. has served as a member of our board of directors and as our Chief Technology Officer since August 2011, when he co-founded Duolingo with Dr. von Ahn. Dr. Hacker holds a B.S. in Computer Science from Eidgenossische Technische Hochschule Zurich, Switzerland and a Ph.D. in Computer Science from Carnegie Mellon University. We believe Dr. Hacker is qualified to serve as a member of our board of directors because of his perspective and experience building and leading our business as co-founder and Chief Technology Officer.

Matthew Skaruppa has served as our Chief Financial Officer since February 2020. From January 2016 to February 2020, he served as Vice President of Goldman Sachs Investment Partners. Previously, Mr. Skaruppa served as Principal at KKR Capstone from 2010 to 2015 and as a consultant at Bain & Company from 2004 to 2008. Mr. Skaruppa holds a B.S. in Chemical Engineering from Northwestern University and an M.B.A. from the Stanford Graduate School of Business.

Robert Meese has served as our Chief Business Officer since March 2021, after having served as our Chief Revenue Officer from December 2018 to March 2021 and our Vice President of Business from September 2016 to December 2018. From August 2008 to September 2016, he held various roles at Google, including most recently as Director, Global Head of Games Business Development, Google Play. Mr. Meese holds a B.S. in Economics and a B.S. in Computer Science from the University of Pennsylvania and an M.B.A. from the Massachusetts Institute of Technology.

Natalie Glance, Ph.D. has served as our Senior Vice President of Engineering since December 2019, after having served as our Vice President of Engineering from February 2017 to December 2019 and our Director of Engineering from March 2015 to February 2017. From 2007 to 2015, Dr. Glance served as an Engineering Manager at Google. Dr. Glance holds a B.A. in Physics from Princeton University and a Ph.D. in Physics from Stanford University.

Stephen Chen has served as our General Counsel since March 2020. From July 2014 to February 2020, he served as Associate General Counsel for Proofpoint, Inc., an enterprise security company. Mr. Chen previously served as Associate General Counsel of Marin Software, Director and Senior Counsel, Mergers and Acquisition at VMWare, Inc. and Legal Director of Yahoo!. Mr. Chen holds a B.A. in History and a J.D. from Harvard University.

Non-Employee Directors

Amy Bohutinsky has served as a member of our board of directors since June 2020. From 2005 to 2019, she held various leadership roles at Zillow Group, Inc., a publicly-traded online real estate marketplace company, including most recently as the Chief Operating Officer, from August 2015 to 2019, and as the Chief Marketing Officer, from March 2011 to August 2015. From 2001 to 2005, Ms. Bohutinsky served in various leadership positions at Hotwire, Inc., an online travel company, including Director of Corporate Communications. Ms. Bohutinsky has consulted as a venture partner at TCV, a private equity and venture capital firm, since 2019. Ms. Bohutinsky has served on the board of directors of Zillow Group since October 2018. Previously, she served on the board of directors of Gap, Inc., a publicly-traded clothing retailer, from 2018 to 2020. She also

previously served on the boards of directors of HotelTonight, LLC, a privately held mobile-based hotel booking service (acquired by Airbnb, Inc. in 2019) and Avvo, Inc., a privately held online legal marketplace (acquired by Internet Brands in 2018). Ms. Bohutinsky holds a B.A. in Journalism and Mass Communications from Washington & Lee University. We believe Ms. Bohutinsky is qualified to serve as a member of our board of directors due to her valuable strategic and operational expertise and experience as director and senior leader of other large consumer-facing companies.

Sara Clemens has served as a member of our board of directors since June 2020. Ms. Clemens has served as the Chief Operating Officer at Twitch since January 2018. From 2014 to 2017, she served as the Chief Operating Officer at Pandora Media and, from 2012 to 2013, she served as the Vice President of Corporate Development at LinkedIn. Ms. Clemens currently serves as on the board of directors of Khosla Ventures Acquisition Co. III. Ms. Clemens holds a B.A. in English and an M.A. (Hons) from the University of Canterbury, New Zealand. We believe Ms. Clemens is qualified to serve as a member of our board of directors due to her extensive strategic and operational expertise and experience in senior leadership roles at other technology companies.

Bing Gordon has served as a member of our board of directors since February 2020. Since June 2008, Mr. Gordon has served as a partner at Kleiner Perkins Caufield & Byers, a venture capital firm. From 1998 to 2009, he served as the Executive Vice President and Chief Creative officer of Electronic Acts, a gaming company he co-founded. Mr. Gordon has served on the board of directors of Zynga Inc., a publicly-traded video game developer, since July 2008. Mr. Gordon is a special advisor to the board of directors of Amazon, and was previously a member of its board from 2003 to 2018. Mr. Gordon holds a B.A. in English from Yale and an M.B.A. from the Stanford Graduate School of Business. We believe Mr. Gordon is qualified to serve as a member of our board of directors due to his investment, strategic and operational expertise and his experience in senior leadership roles at other technology companies.

Gillian Munson has served as a member of our board of directors since September 2019. Ms. Munson has served as the Chief Financial Officer of Iora Health, Inc., a healthcare company, since January 2021 and as a Venture Partner at Union Square Ventures since April 2019. From 2013 to 2019, she served as Chief Financial Officer of XO Group Inc., the parent company of The Knot Inc., a media and technology company. Ms. Munson's previous positions include Managing Director at Allen & Company LLC, Vice President, Business Development at Symbol Technologies, LLC, and both Executive Director and Senior Equity Analyst at Morgan Stanley. Ms. Munson has served on the board of directors of Phreesia, Inc., a publicly-traded software company, since May 2019, and previously served on the board of directors of Monster Worldwide, Inc. from 2015 to 2016. Ms. Munson holds a B.A. in Political Science and Economics from the Colorado College in Colorado Springs. We believe Ms. Munson is qualified to serve as a member of our board of directors due to her experiences in senior leadership roles at consumer-facing companies and her background in investment and research.

Jim Shelton has served as a member of our board of directors since October 2020. Mr. Shelton has served as the Chief Investment and Impact Officer at the Blue Meridian Partners, a nonprofit funding collaborative, since January 2020, and a Partner of Amandla Enterprises, an impact investment and advisory firm, since July 2018. From July 2016 to July 2018, he served as the President of Education for the Chan Zuckerberg Initiative. From June 2015 to July 2016, Mr. Shelton previously served as the President and Chief Impact Officer of 2U, Inc., an educational technology company. From 2009 to 2015, he held various roles at the US Department of Education, most recently as Deputy Secretary and Chief Operating Officer. Mr. Shelton holds a B.A. in Computer Science from Morehouse College and an M.S. in Education and an M.B.A. from the Stanford Graduate School of Business. We believe Mr. Shelton is qualified to serve as a member of our board of directors due to his extensive experience in senior leadership roles at public companies and in the government, along with his commitment to education.

Laela Sturdy has served as a member of our board of directors since March 2020. Ms. Sturdy has served as a General Partner at CapitalG, the growth investment fund financed by Alphabet Inc., since October 2013. Previously, Ms. Sturdy held several roles at Google, including Managing Director, Emerging Businesses. Since March 2021, Ms. Sturdy has served on the board of directors of UiPath, Inc., a publicly-traded process automation software company, and previously served on the board of directors of Care.com from July 2016 to May 2019. Ms. Sturdy holds an A.B. in Biochemistry from Harvard College, an M.Sc. in Multimedia Systems from Trinity College Dublin and an M.B.A. from the Stanford Graduate School of Business. We believe Ms. Sturdy is qualified to serve as a member of our board of directors due to her experience in investing in, and facilitating the growth of, technology companies.

Family Relationships

There are no family relationships among any of our directors or executive officers.

Board of Directors

Our business and affairs are managed under the direction of our board of directors. The number of directors will be fixed by our board of directors, subject to the terms of our amended and restated certificate of incorporation and amended and restated bylaws, which will become effective immediately prior to the completion of this offering. Our board of directors currently consists of nine directors, seven of whom will qualify as "independent" under the Nasdaq Listing Rules.

Director Independence

Our board of directors has undertaken a review of the independence of each director. Based on information provided by each director concerning his or her background, employment, and affiliations, our board of directors has determined that Mmes. Bohutinsky, Clemens, Munson, and Sturdy and Messrs. Gordon and Shelton qualify as independent directors in accordance with the Nasdaq Listing Rules. Under the Nasdaq Listing Rules,

the definition of independence includes a series of objective tests, such as that the director is not, and has not been for at least three years, one of our employees and that neither the director nor any of his or her family members has engaged in various types of business dealings with us. Our board of directors has made a subjective determination as to each independent director that no relationships exists that, in the opinion of our board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. Drs. von Ahn and Hacker are not considered independent by virtue of their positions as our Chief Executive Officer and Chief Technology Officer, respectively. In making these determinations, our board of directors reviewed and discussed information provided by the directors and us with regard to each director's relationships as they may relate to us and our management, including the beneficial ownership of our capital stock by each director, and the transactions involving them described in the section titled "Certain Relationships and Related Party Transactions."

Classified Board of Directors

In accordance with our amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering, our board of directors will be divided into three classes with staggered three-year terms. At each annual general meeting of stockholders, the successors to directors whose terms then expire will be elected to serve from the time of election and qualification until the third annual meeting following election. Our directors will be divided among the three classes as follows:

•the Class I directors will be Bing Gordon and Laela Sturdy, and their terms will expire at the annual meeting of stockholders to be held in 2022;

•the Class II directors will be Amy Bohutinsky, Gillian Munson, and Jim Shelton, and their terms will expire at the annual meeting of stockholders to be held in 2023; and •the Class III directors will be Luis von Ahn, Sara Clemens, and Severin Hacker, and their terms will expire at the annual meeting of stockholders to be held in 2024.

We expect that any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors. The division of our board of directors into three classes with staggered three-year terms may delay or prevent a change of our management or a change in control.

Role of the Board of Directors in Risk Oversight Process

Risk assessment and oversight are an integral part of our governance and management processes. Our board of directors encourages management to promote a culture that incorporates risk management into our corporate strategy and day-to-day business operations. Management discusses strategic and operational risks at regular management meetings and conducts specific strategic planning and review sessions during the year that include a focused discussion and analysis of the risks facing us. Throughout the year, senior management reviews these risks with the board of directors at regular board meetings as part of management presentations that focus on particular business functions, operations, or strategies, and presents the steps taken by management to mitigate or eliminate such risks.

Our board of directors does not have a standing risk management committee, but rather administers this oversight function directly through our board of directors as a whole, as well as through various standing committees of our board of directors that address risks inherent in their respective areas of oversight. While our board of directors is responsible for monitoring and assessing strategic risk exposure, our audit, risk and compliance committee is responsible for overseeing our major financial risk exposures and the steps our management has taken to monitor and control these exposures. The audit, risk and compliance committee also approves or disapproves any related party transactions. Our nominating and corporate governance committee monitors the effectiveness of our corporate governance guidelines. Our compensation and leadership committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking.

Committees of the Board of Directors

Our board of directors has established an audit, risk and compliance committee, a compensation and leadership committee, and a nominating and corporate governance committee. Our board of directors may establish other committees to facilitate the management of our business. The composition and functions of each committee are described below. Members serve on these committees until their resignation or until otherwise determined by our board of directors. Each committee intends to adopt a written charter that satisfies the applicable rules and regulations of the SEC and Nasdaq Listing Rules, which we will post on our website at www.duolingo.com. Information contained on, or that can be accessed through, our website does not constitute part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. Investors should not rely on any such information in deciding whether to purchase our Class A common stock.

Audit, Risk, and Compliance Committee

Our audit, risk, and compliance committee oversees our corporate accounting and financial reporting process. Among other matters, the audit, risk, and compliance committee:

•appoints our independent registered public accounting firm;

•evaluates the independent registered public accounting firm's qualifications, independence, and performance;

•determines the engagement of the independent registered public accounting firm;

•reviews and approves the scope of the annual audit and pre-approves the audit and non-audit fees and services;

•reviews and approves all related party transactions on an ongoing basis;

•establishes procedures for the receipt, retention, and treatment of any complaints received by us regarding accounting, internal accounting controls, or auditing matters;

•discusses with management and the independent registered public accounting firm the results of the annual audit and the review of our quarterly financial statements;

•approves the retention of the independent registered public accounting firm to perform any proposed permissible non-audit services;

•discusses with management on a periodic basis, or as appropriate, policies, and procedures with respect to risk assessment and risk management;

•consults with management to establish procedures and internal controls relating to cybersecurity;

•is responsible for reviewing our financial statements and our management's discussion and analysis of financial condition and results of operations to be included in our annual and quarterly reports to be filed with the SEC;

•investigates any reports received through the ethics helpline and reports to the board of directors periodically with respect to any information received through the ethics helpline and any related investigations; and •reviews the audit, risk and compliance committee charter and the audit, risk and compliance committee's performance on an annual basis.

Our audit, risk and compliance committee consists of Gillian Munson, Amy Bohutinsky, Jim Shelton, and Laela Sturdy. Our board of directors has determined that all members are independent under the Nasdaq Listing Rules and Rule 10A-3(b)(1) of the Exchange Act. The chair of our audit, risk and compliance committee is Ms. Munson. Our board of directors has determined that Ms. Munson is an audit committee financial expert as such term is currently defined in Item 407(d)(5) of Regulation S-K. Our board of directors has also determined that each member of our audit, risk and compliance committee can read and understand fundamental consolidated financial statements, in accordance with applicable requirements.

Compensation and Leadership Committee

Our compensation and leadership committee oversees policies relating to the compensation and benefits of our officers and employees. Among other matters, the compensation and leadership committee:

•reviews and approves corporate goals and objectives relevant to compensation of our executive officers other than our Chief Executive Officer and any executive officer who is then-serving as a member of our board of directors;

•evaluates the performance of our executive officers other than our Chief Executive Officer and any executive officer who is then-serving as a member of our board of directors in light of those goals and objectives and approves the compensation of these officers based on such evaluations;

•reviews and approves or makes recommendations to our board of directors regarding our incentive compensation plans and arrangements, retirement plans, and special or supplemental compensation and benefits;

•reviews the performance of any executive officer who is then-serving as a member of our board of directors and makes recommendations with respect to such executive officer's compensation to our board of directors, which retains the authority to make compensation decisions relative to such executive officers; and •reviews and makes recommendations to our board of directors regarding director compensation;

•reviews the compensation and leadership committee charter and the compensation and leadership committee's performance on an annual basis.

Our compensation and leadership committee consists of Bing Gordon and Sara Clemens. Our board of directors has determined that all members of our compensation and leadership committee are independent under the Nasdaq Listing Rules and are "non-employee directors" as defined in Rule 16b-3 promulgated under the Exchange Act. The chair of our compensation and leadership committee is Mr. Gordon.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee is responsible for making recommendations to our board of directors regarding candidates for directorships and composition of our board of directors. In addition, the nominating and corporate governance committee is responsible for overseeing our corporate governance policies and making recommendations to our board of directors concerning governance matters.

Our nominating and corporate governance committee consists of Sara Clemens, Amy Bohutinsky, and Jim Shelton. Our board of directors has determined that all members of the nominating and corporate governance committee are independent under the Nasdaq Listing Rules. The chair of our nominating and corporate governance committee is Ms. Clemens.

Compensation and Leadership Committee Interlocks and Insider Participation

None of the members of the compensation and leadership committee is currently, or has been at any time, one of our executive officers or employees. None of our executive officers currently serves, or has served during the last year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or on our compensation and leadership committee.

Duolingo Code of Ethics

We have adopted a written code of business conduct and ethics that applies to all of our directors, officers, and employees, including those officers responsible for financial reporting. The full text of our code of business conduct and ethics will be posted on the investor relations section of our website at www.duolingo.com. Any substantive amendment to, or waiver of, a provision of the code of business conduct and ethics that applies to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions will be disclosed on our website. Information contained on, or that can be accessed through, our website does not constitute part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. Investors should not rely on any such information in deciding whether to purchase our Class A common stock.

Limitation on Liability and Indemnification Matters

Our amended and restated certificate of incorporation and our amended and restated bylaws, both of which will become effective immediately prior to the completion of this offering, among other things, limit our directors' liability, and provide that we may indemnify our directors and officers to the fullest extent permitted under the Delaware General Corporation Law. As authorized by the Delaware General Corporation Law, our amended and restated certificate of incorporation provides that to the fullest extent permitted by Delaware law, our directors will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as directors, except for liability for any:

•transaction from which the director derives an improper personal benefit;

•act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

•unlawful payment of dividends or unlawful redemption or repurchase of shares in violation of Delaware law; or •breach of the director's duty of loyalty to the corporation or its stockholders.

These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or rescission.

Our amended and restated bylaws provide that we will, in certain situations, indemnify our directors and officers and may indemnify other employees and other agents, to the fullest extent permitted by law. Any indemnified person is also entitled, subject to certain limitations, to advancement, direct payment, or reimbursement of reasonable expenses (including attorneys' fees and disbursements) in advance of the final disposition of the proceeding.

The Delaware General Corporation Law provides that to the extent a present or former director or officer of the corporation has been successful on the merits or otherwise in defense of any generally indemnifiable action, suit, or proceeding, that such person shall be indemnified by the corporation against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with such action, suit, or proceeding. For any acts or omissions occurring after December 31, 2020, the officers referenced in the immediately preceding sentence could be more limited as a matter of Delaware law.

In addition, we have entered, and intend to continue to enter, into separate indemnification agreements with our directors and officers. Subject to certain exceptions, these indemnification agreements, among other things, require us to indemnify such directors and officers to the fullest extent permitted by Delaware law for certain expenses and against certain liabilities, including, among other things, attorneys' fees, judgments, fines, and settlement amounts actually and reasonably paid or incurred by such director or officer in any action, suit, or proceeding arising out of their services as a director or officer, or any other company or enterprise to which the person provides services at our request. Subject to certain exceptions, these indemnification agreements will also require us to advance certain expenses (including attorneys' fees and disbursements) actually and reasonably paid or incurred by such director and officer in advance of the final disposition of the action, suit or proceeding.

We also maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers.

We believe that these provisions in our amended and restated certificate of incorporation and amended and restated bylaws and these indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or control persons, in the opinion of the SEC, such indemnification is against public policy, as expressed in the Securities Act and is therefore unenforceable.

Director Compensation

Director Compensation Table for Fiscal Year 2020

The following table sets forth information for 2020 regarding the compensation awarded to, earned by or paid to the non-employee directors who served on our board of directors during fiscal year 2020.

Name	Fees Earned or Paid in Cash ($)	Stock Awards ($)	Option Awards ($) (1)	Non-Equity Incentive Plan Compensation ($)	Change in Pension Value and Nonqualified Deferred Compensation Earnings ($)	All Other Compensation ($)	Total ($)
Amy Bohutinsky	—	—	303,200	—	—	—	$303,200
Sara Clemens	—	—	303,200	—	—	—	$303,200
Brad Burnham	—	—	—	—	—	—	$—
Bing Gordon	—	—	—	—	—	—	$—
Gillian Munson	—	—	—	—	—	—	$—
Jim Shelton	—	—	427,600	—	—	—	$427,600
Laela Sturdy	—	—	—	—	—	—	$—

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(1)Amounts shown represent the grant date fair value of option awards granted during fiscal year 2020 as calculated in accordance with ASC Topic 718. See Note 9 of the audited consolidated financial statements included in this registration statement for the assumptions used in calculating this amount.

The table below shows the aggregate number of option awards (exercisable and unexercisable) held as of December 31, 2020 by each non-employee director who was serving as of December 31, 2020.

Name	Shares Underlying Options Outstanding at Fiscal Year End
Amy Bohutinsky	40,000
Sara Clemens	40,000
Brad Burnham	—
Bing Gordon	50,000
Gillian Munson	25,000
Jim Shelton	40,000
Laela Sturdy	—

None of our non-employee directors held a stock award as of December 31, 2020.

Narrative Disclosure to Director Compensation Table

Historically, we have not had a formalized non-employee director compensation program; however, with the exception of Mr. Burnham, we have granted each of our non-employee directors options to purchase shares of our common stock in connection with their commencement of service with us. All options granted to our non-employee directors are granted pursuant to our 2011 Plan. Ms. Munson's option grant vests in equal installments annually over two years, while the other non-employee directors' options vest in equal installments annually over four years, in each case subject to the director's continued service. In March 2021, we granted Ms. Sturdy an option to purchase 40,000 shares of our common stock, subject to the same four year vesting terms described above.

We have approved a compensation policy for our non-employee directors, or the Director Compensation Program, to be effective in connection with the consummation of this offering. Pursuant to the Director Compensation Program, our non-employee directors will receive cash compensation as follows:

•Each non-employee director will receive an annual cash retainer in the amount of $30,000 per year.

•Any non-executive chairperson will receive an additional annual cash retainer in the amount of $25,000 per year.

•The chairperson of the audit, risk and compliance committee will receive an additional annual cash retainer in the amount of $20,000 per year for such chairperson's service on the audit, risk and compliance committee. Each non-chairperson member of the audit, risk and compliance committee will receive an additional annual cash retainer in the amount of $10,000 per year for such member's service on the audit, risk and compliance committee.

•The chairperson of the compensation and leadership committee will receive an additional annual cash retainer in the amount of $12,000 per year for such chairperson's service on the compensation and leadership committee. Each non-chairperson member of the compensation and leadership committee will receive an additional annual cash retainer in the amount of $6,000 per year for such member's service on the compensation and leadership committee.

•The chairperson of the nominating and governance committee will receive additional an annual cash retainer in the amount of $8,000 per year for such chairperson's service on the nominating and governance committee. Each non-chairperson member of the nominating and governance committee will receive an additional annual cash retainer in the amount of $4,000 per year for such member's service on the nominating and governance committee.

Under the Director Compensation Program, each non-employee director will automatically be granted (i) restricted stock units covering a number of shares of our common stock calculated by dividing (a) $300,000 by (b) the closing trading price of our common stock as of the date of grant (or if the date of grant is not a trading day, the immediately preceding trading day) and using assumptions published in our most recent periodic report as of the date of grant, rounded down to the nearest whole share, upon the director's initial appointment or election to our board of directors, referred to as the Initial Grant, and (ii) for each non-employee director who has served for at least six months as of the date of each annual stockholders' meeting, restricted stock units covering a number of shares of our common stock calculated by dividing (a) $160,000 by (b) the closing trading price of our common stock as of the date of grant (or if the date of grant is not a trading day, the immediately preceding trading day) and using assumptions published in our most recent periodic report as of the date of grant, rounded down to the nearest whole share, automatically on the date of each annual stockholders' meeting thereafter, referred to as the Annual Grant. The Initial Grant will vest over three years, subject to continued service through each applicable vesting date. The Annual Grant will vest on the first anniversary of the date of grant, provided, that if our annual stockholders' meeting immediately following the date of grant takes place prior to the first anniversary of the date of grant, the Annual Grant will vest immediately prior to our annual stockholders' meeting following the date of grant, subject to continued service through each applicable vesting date.

In the event of a change in control (as defined in the Director Compensation Program), each Initial Grant and Annual Grant, along with any stock options or other equity-based awards held by any non-employee director, will vest and, to the extent applicable, become exercisable immediately prior to such change in control.

Executive

Executive Compensation

This section discusses the material components of the executive compensation program for our executive officers who are named in the "2020 Summary Compensation Table" below. For the year ended December 31, 2020, our chief executive officer and the next two most highly-compensated executive officers, or our named executive officers (NEOs), and their positions were as follows:

•Luis von Ahn, our Chief Executive Officer;

•Severin Hacker, our Chief Technology Officer; and •Matthew Skaruppa, our Chief Financial Officer.

The following is a discussion and analysis of compensation arrangements of our NEOs. This discussion contains forward looking statements that are based on our current plans, considerations, expectations and determinations regarding future compensation programs. Actual compensation programs that we adopt may differ materially from currently planned programs as summarized in this discussion. As an "emerging growth company" as defined in the JOBS Act, we are not required to include a Compensation Discussion and Analysis section and have elected to comply with the scaled disclosure requirements applicable to emerging growth companies.

2020 Summary Compensation Table

The following table sets forth total compensation paid to our named executive officers for the fiscal year ending on December 31, 2020.

Name and Principal Position	Year	Salary ($)	Bonus ($) (1)	Option Awards ($) (2)	All Other Compensation ($) (3)	Total ($)
Luis von Ahn Chief Executive Officer	2020	330,000	1,250	3,094,000	16,840	3,442,090
Severin Hacker Chief Technology Officer	2020	322,350	—	3,094,000	16,840	3,433,190
Matthew Skaruppa (4) Chief Financial Officer	2020	322,537	150,000	1,931,889	5,840	2,410,266

(1)Amount reported for Dr. von Ahn reflects bonuses awarded to him under our language challenge program pursuant to which employees may earn bonuses by completing language challenges. Amount for Mr. Skaruppa reflects a signing bonus we paid in connection with his commencement of employment with us. For additional details about the bonuses paid by us in 2020, see the section below titled "Narrative Disclosure to Summary Compensation Table – 2020 Bonuses."

(2)Amounts reflect the aggregate grant date fair value of option awards granted during fiscal year 2020 as calculated in accordance with ASC Topic 718. See Note 9 of the audited consolidated financial statements included in this registration statement for the assumptions used in calculating these amounts.

(3)Amount reported includes $5,700 paid to all employees as a work from home stipend and $140 as the value of a gift provided to all employees. Amount reported for Drs. von Ahn and Hacker also includes $11,000 in matching contributions under our 401(k) plan.

(4)Mr. Skaruppa commenced employment with us in February 2020.

Narrative to Summary Compensation Table

2020 Salaries

Our NEOs each receive a base salary to compensate them for services rendered to our company. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role, and responsibilities.

For fiscal year 2020, Drs. von Ahn and Hacker and Mr. Skaruppa had an annual base salary of $330,000, $322,350 and $375,000, respectively.

Our board of directors and compensation and leadership committee may adjust base salaries from time to time in their discretion.

2020 Bonuses

During the fiscal year 2020, we did not maintain a formal performance bonus program, and we have not adopted a formal performance bonus program for 2021.

In connection with Mr. Skaruppa's commencement of employment in March 2020, we paid him a one-time signing bonus in the amount of $150,000. Mr. Skaruppa has agreed to repay $75,000 of the signing bonus in the event of certain terminations of his employment within his first year of employment, as described below under "Employment Compensation Arrangements."

Dr. von Ahn received bonuses totaling $1,250 under our language challenge program in which all of our employees are eligible to participate.

Our board of directors or compensation and leadership committee may award discretionary bonuses or adopt a performance program following the completion of this offering.

Fiscal 2020 Equity-Based Compensation

Pursuant to our Amended and Restated 2011 Equity Incentive Plan (2011 Plan), we have granted stock options and restricted stock units to our employees, including our named executive officers, in order to attract and retain them, as well as to align their interests with the interests of our stockholders. In order to provide a long-term incentive, our stock options generally vest over four years subject to continued service to us.

In March 2020, in connection with his commencement of employment, we granted Mr. Skaruppa an option to purchase 306,163 shares of our common stock. Mr. Skaruppa's option grant vests as to 25% of the shares underlying the option on the first anniversary of the date he commenced employment with us and as to 1/48th of the shares on each monthly anniversary thereafter, in each case, subject to continued service through the applicable vesting date. Mr. Skaruppa's option was granted at an exercise price of $14.42, which our board of directors determined was equal to the fair market value of a share of our common stock on the date of grant.

In December 2020, we granted each of Drs. von Ahn and Hacker an option to purchase 175,000 shares of our common stock. Drs. von Ahn's and Hacker's option grants vest in 48 monthly installments following the vesting commencement date, in each case, subject to continued service through the applicable vesting date. Drs. von Ahn's and Hacker's options were granted at an exercise price of $38.08 per share, which our board of directors determined was equal to the fair market value of a share of our common stock on the date of grant.

All of Drs. von Ahn's and Hacker's outstanding options are subject to accelerated vesting upon the completion of this offering in respect of the lesser of (A) 60% of total number of shares subject to the option, or (B) the number of then unvested shares subject to the option, subject to continued service through the completion of this offering. Additionally, if within twelve months immediately following a Change in Control (as defined in the 2011 Plan), Drs. von Ahn's or Hacker's service is terminated by us without Cause or by the executive for Good Reason (as such terms are defined in the 2011 Plan), then 100% of the shares subject to each option held by him will vest and be exercisable, subject to the delivery of a release of claims in favor of us.

On April 7, 2021, pursuant to the 2011 Plan, we granted Mr. Skaruppa 25,000 restricted stock units, or RSUs, which require the satisfaction of both a liquidity event condition and a service-based condition in order to vest. The liquidity event condition will be satisfied on the six-month anniversary of, or, if earlier, March 15 of the year following, the completion of this offering or, if earlier, the consummation of a Change in Control. The service-based requirement will be satisfied as to 25% of the RSUs on May 15, 2022 and as to 6.25% of the RSUs on each quarterly anniversary thereafter, subject to continued service through the applicable date. Each RSU vests on the first date both the liquidity event condition and the service-based condition has been satisfied in respect of that particular RSU. Each RSU entitles the holder to a share of our common stock upon vesting.

If Mr. Skaruppa's employment with us is terminated by us without Cause or by Mr. Skaruppa for Good Reason (in each case as defined in his offer letter with us) within the period commencing three months prior to a Change in Control and ending twelve months after the Change in Control, then the vesting and exercisability of his outstanding equity awards will accelerate in respect of 100% of the shares subject to the awards.

Fiscal 2021 Equity-Based Compensation

Special Multi-Year Performance-Based Founder Awards In connection with this offering, our board of directors worked closely with its compensation consultant, Compensia, to design a one-time equity incentive for Drs. von Ahn and Hacker that significantly aligns their compensation with the long-term interests of our stockholders by requiring the achievement of sustained stock price targets. In designing the equity incentive for Drs. von Ahn and Hacker, our board of directors considered Dr. von Ahn's and Dr. Hacker's significant stockholdings, long-term leadership and the comparatively modest level of cash compensation they have received from us. The equity incentive is comprised of 1,200,000 and 600,000 performance-based restricted stock units (PSUs), respectively. The PSUs vest upon the satisfaction of both a service-based condition and a performance-based condition and generally are settled one year after vesting. The service-based condition is satisfied as to 25% of the PSUs on each anniversary of the completion of this offering, subject to Dr. von Ahn and Dr. Hacker continuing to serve as our Chief Executive Officer and Chief Technology Officer, respectively, through the applicable date. The performance-based condition will be satisfied in the event Dr. von Ahn and Dr. Hacker continue to serve as our Chief Executive Officer and Chief Technology Officer, respectively, through the date the 60-day trailing volume weighted average closing price of our Class A common stock reaches certain stock price hurdles, which are set at multiples of the price to the public for this offering, over a period of ten years, as set forth in the table below.

Tranche	Multiple of IPO Price	Number of PSUs for Dr. von Ahn	Number of PSUs for Dr. Hacker
1	1.25x	60,000	30,000
2	1.5x	60,000	30,000
3	1.75x	60,000	30,000
4	2.0x	120,000	60,000
5	2.5x	120,000	60,000
6	3.0x	120,000	60,000
7	3.5x	120,000	60,000
8	4.0x	120,000	60,000
9	6.0x	180,000	90,000
10	8.0x	240,000	120,000

Each stock price hurdle will be equitably adjusted to reflect any stock splits, stock dividends or other restructurings impacting our Class A common stock. The size of the award was determined after consideration of similar equity awards to founders of privately held and publicly traded technology companies that are serving in executive positions. The number of PSUs for which the performance-based condition may be satisfied is heavily weighted towards the higher stock price hurdles, which our board of directors believes that, when combined with the service-based condition requiring a minimum of four years of service, comprises a structure designed to achieve its incentive and alignment goals with respect to this award.

Any PSUs that have not satisfied the performance-based condition as of the tenth anniversary of the grant date will be forfeited. Our board of directors intends for the PSUs to be the exclusive equity award that Drs. von Ahn and Hacker will receive through the tenth anniversary of the date of grant.

In the event of Dr. von Ahn or Dr. Hacker ceases to serve as our Chief Executive Officer or Chief Technology Officer, respectively, as a result of death or disability, the service-based condition will be deemed satisfied, any vested PSUs will generally be settled, any unvested PSUs will remain outstanding and eligible to vest based on achievement of the stock price hurdles set forth above for two years, and any PSUs for which the stock price hurdle has not been met at that time will be forfeited. Unless mutually agreed otherwise, in the event Dr. von Ahn or Dr. Hacker ceases to serve as our Chief Executive Officer or Chief Technology Officer, respectively, for any reason other than death or disability, any vested PSUs will generally be settled and any unvested PSUs will be forfeited. Further, if such cessation of service is effected by us for cause, or Dr. von Ahn or Dr. Hacker engages in fraud or material misconduct, vested PSUs which have not yet been settled may be clawed back to the extent determined appropriate by our board of directors.

In the event of a change in control, no accelerated vesting for any tranches will occur solely as a result of the change in control. Upon such event, the service-based condition will be deemed satisfied, achievement of stock price hurdles for purposes of the PSUs will be measured based on the price per share to be received by stockholders in connection with the change in control, and any PSUs for which the stock price hurdle has not been met will be forfeited. To the extent the price per share received by the stockholders in connection with the change in control falls between two stock price hurdles, the number of PSUs deemed earned based on satisfaction of the performance condition will be determined using linear interpolation between the two stock price hurdles.

Other 2021 Equity Awards On April 7, 2021, we granted Mr. Skaruppa 25,000 RSUs under our 2011 Plan. The RSUs vest based on the satisfaction of a service-based requirement and a liquidity event requirement within the term of the RSUs. Subject to Mr. Skaruppa's continued service to us, the service-based requirement will be satisfied as to 25% of the RSUs on May 15, 2022 and as to 6.25% of the RSUs each quarter thereafter. The liquidity event requirement will be satisfied on a change in control or, generally, six months after our securities become publicly traded, including the completion of this offering.

New 2021 Incentive Award Plan In connection with this offering, we intend to adopt a 2021 Incentive Award Plan, referred to below as the 2021 Plan, in order to facilitate the grant of cash and equity incentives to directors, employees (including our named executive officers) and consultants of our company and certain of its affiliates and to enable us to obtain and retain services of these individuals, which is essential to our long-term

success. We expect that the 2021 Plan will be effective on the day prior to the first public trading date of our common stock, subject to approval of such plan by our stockholders. For additional information about the 2021 Plan, please see the section titled "Equity Compensation Plans" below

Other Elements of Compensation

Retirement Savings and Health and Welfare Benefits

We currently maintain a 401(k) retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. The Internal Revenue Code allows eligible employees to defer a portion of their compensation, within prescribed limits, on a pre-tax basis through contributions to the 401(k) plan. Currently, we match contributions made by employees who have been employed by us for at least one year and who participate in the 401(k) plan up to a specified percentage of the employee contributions, and these matching contributions are fully vested as of the date on which the contribution is made. We believe that providing a vehicle for tax-deferred retirement savings though our 401(k) plan, and making matching contributions, adds to the overall desirability of our executive compensation package and further incentivizes our employees, including our named executive officers, in accordance with our compensation policies.

All of our full-time employees, including our named executive officers, are eligible to participate in our health and welfare plans, including medical, dental and vision benefits; medical and dependent care flexible spending accounts; short-term and long-term disability insurance; and life and AD&D insurance.

Perquisites and Other Personal Benefits

We do not provide our named executive officers with any perquisites beyond those made generally available to our other employees. In 2020, we provided each of our employees, including our named executive officers, with a stipend of $5,700 to assist with costs related to working remotely. We also provided each employee, including our named executive officers, with a gift valued at $140.

In the future, our board of directors or compensation and leadership committee may provide perquisites to our named executive officers in the event it determines that it is necessary or appropriate to incentivize or fairly compensate them.

No Tax Gross-Ups

We do not make gross-up payments to cover our named executive officers' personal income taxes that may pertain to any of the compensation or perquisites paid or provided by our company.

Outstanding Equity Awards at 2020 Fiscal Year End

The following table lists all outstanding equity awards held by our NEOs as of December 31, 2020.

		Option Awards (1)				
Name	Vesting Commencement Date	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price ($)	Option Expiration Date
Luis von Ahn	1/1/2019 (1)	83,854	91,146		7.48	2/14/2029
	1/1/2020 (1)	40,104	134,896		14.42	12/12/2029
	1/1/2021 (1)	—	175,000		38.08	12/2/2030
Severin Hacker	1/1/2019 (1)	69,854	91,146		7.48	2/14/2029
	1/1/2020 (1)	38,604	134,896		14.42	12/12/2029
	1/1/2021 (1)	—	175,000		38.08	12/2/2030
Matthew Skaruppa	2/24/2020 (2)	—	306,163		14.42	3/10/2030

(1)Each option held by Drs. von Ahn and Hacker vests and becomes exercisable in 48 monthly installments following the vesting commencement date, subject to the named executive officer's continuing to provide services to us through the applicable vesting date. Each option is subject to accelerated vesting upon the completion of this offering in respect of the lesser of (A) 60% of total number of shares subject to the option, or (B) the number of then unvested shares subject to the option, subject to continued service through the completion of this offering. Additionally, if within twelve months immediately following a Change in Control, Drs. von Ahn's or Hacker's service is terminated by us without Cause or by the NEO for Good Reason, then 100% of the shares subject to each option held by him will vest and be exercisable, subject to the delivery of a release of claims in favor of us.

(2)Mr. Skaruppa's option grant vests as to 25% of the shares underlying the option on the first anniversary of the vesting commencement date and as to 1/48th of the shares underlying the option each month thereafter, subject to Mr. Skaruppa continuing to provide services to us through the applicable vesting date. If Mr. Skaruppa's employment with us is terminated by us without Cause or by Mr. Skaruppa for Good Reason within the period commencing three months prior to a Change in Control and ending twelve months after the Change in Control, then the vesting and exercisability of the option will accelerate in respect of 100% of the shares subject to the option.

Executive Compensation Arrangements

Offer Letters

We have entered into offer letters with each of our named executed officers. Each offer letter sets forth the title, base salary, and initial equity award for the executive and summarizes the other terms and conditions applicable to the executive's employment with us. Additionally, each of our named executive officers has entered into a proprietary information and invention assignment agreement with us.

In accordance with Mr. Skaruppa's offer letter, we paid him a signing bonus in the amount of $150,000. If, within the first year of Mr. Skaruppa's employment, we terminate his employment for Cause or he resigns without Good Reason (as defined below), then Mr. Skaruppa has agreed to repay $75,000 of the signing bonus.

Mr. Skaruppa's offer letter also provides that if his employment is terminated by us without Cause or by him for Good Reason, then, subject to his timely delivery of an effective release of claims, he will be entitled to receive six months continued payment of his base salary, up to six months continued healthcare coverage at our expense and, solely if such termination occurs within the period commencing three months prior to a Change in Control and ending twelve months after a Change in Control, vesting acceleration of 100% of the shares underlying his outstanding stock options and other equity awards.

For the purposes of Mr. Skaruppa's offer letter, "Cause" means Mr. Skaruppa's: (1) material breach of any of his obligations contained in his offer letter, including his willful failure or refusal to perform the job duties and responsibilities assigned to him by us, subject to our provision of notice within 60 days of such failure and his failure to cure within 30 days after such notice; (2) commission of any felony or crime involving moral turpitude; (3) participation in a fraud, act of material dishonesty or misappropriation or similar conduct against us; (4) conduct that is materially injurious to us or our affiliates or subsidiaries, monetarily or otherwise; (5) improper disclosure of our confidential or proprietary information except as required by law; or (6) obtaining a direct or indirect personal benefit from the transfer or use of our trade secrets or intellectual property other than on our behalf or as required by law.

For the purposes of Mr. Skaruppa's offer letter, "Good Reason" means any of the following events without his written consent: (1) any material breach of the terms of his offer letter by us; (2) a material reduction or diminution in his title, duties, role, reporting line, and/or responsibilities; (3) any material change in the principal location of his employment that increases his one-way commute by more than ten miles; or (4) any reduction by us of his base salary of ten percent or more (other than as part of a company-wide reduction). In order to perfect Good Reason, Mr. Skaruppa must provide advance written notice of such resignation to us within sixty days of the initial occurrence of the event or action giving rise to Good Reason, such written notice must specify that his resignation is effective not less than thirty days, nor more than sixty days, after the date of the written notice, and we must have failed to remedy the basis for Good Reason prior to the date of resignation specified in the written notice.

Severance Agreements

In connection with this offering, our board of directors has approved entering into change in control and severance agreements with each of our named executive officers that provide for severance benefits in connection with certain qualifying terminations.

In the event Drs. von Ahn or Hacker resigns for good reason or we terminate Drs. von Ahn's or Hacker's employment without cause (in each case to be defined in the applicable agreement), in addition to any accrued obligations, he is entitled to continued payment of his base salary for 12 months as well as continued healthcare coverage under our medical plan paid or reimbursed by us for up to 12 months. In the event we terminate Mr. Skaruppa's employment without cause, in addition to any accrued obligations, he is entitled to continued payment of his base salary for six months as well as continued healthcare coverage under our medical plan paid or reimbursed by us for up to six months. Payment of severance is contingent on the executive timely providing us with a general release of claims.

In the event Drs. von Ahn or Hacker resigns for good reason or we terminate Drs. von Ahn's or Hacker's employment without cause, in each case, within the three month period prior to, or twelve month period following, a change in control (to be defined in the applicable agreement) (the Change in Control Protection Period), in addition to any accrued obligations and in lieu of the severance benefits described above, he is entitled to the following benefits: (i) payment of an amount equal to 1.5 times his then-current annual base salary, payable over an 18-month period, (ii) payment of a pro-rated annual bonus assuming target performance and paid in a single lump sum, (iii) continued health coverage under our medical plan paid or reimbursed by us for up to 18 months, and (iv) accelerated vesting of all outstanding equity awards subject to time-based vesting provisions. In the event Mr. Skaruppa resigns for good reason or we terminate Mr. Skaruppa's employment without cause, in each case, within the Change in Control Protection Period, in addition to any accrued obligations and in lieu of the severance benefits described above, he is entitled to the following benefits: (i) payment of an amount equal to his then-current annual base salary, payable over a 12-month period, (ii)

payment of a pro-rated annual bonus assuming target performance and paid in a single lump sum, (iii) continued health coverage under our medical plan paid or reimbursed by us for up to 12 months, and (iv) accelerated vesting of all outstanding equity awards subject to time-based vesting provisions. Payment of severance is contingent on the executive timely providing us with a general release of claims.

Equity Compensation Plans

The following summarizes the material terms of the long-term incentive compensation plan in which our named executive officers will be eligible to participate following the consummation of this offering and our existing equity plans, under which we have previously made periodic grants of equity and equity-based awards to our named executive officers and other key employees.

2021 Incentive Award Plan

We intend to adopt the 2021 Plan, which will be effective on the day prior to the first public trading date of our common stock. The principal purpose of the 2021 Plan is to attract, retain and motivate selected employees, consultants and directors through the granting of stock-based compensation awards and cash-based performance bonus awards. The material terms of the 2021 Plan, as it is currently contemplated, are summarized below.

Share Reserve. Under the 2021 Plan, shares of our Class A common stock (the "shares") will be initially reserved for issuance pursuant to a variety of stock-based compensation awards, including stock options, stock appreciation rights (SARs), restricted stock awards, restricted stock unit awards and other stock-based awards. The number of shares initially reserved for issuance or transfer pursuant to awards under the 2021 Plan will be increased by (1) the number of shares represented by awards outstanding under our existing equity plans, or Prior Plan Awards, that become available for issuance under the counting provisions described below following the effective date and (2) an annual increase on the first day of each fiscal year beginning in 2022 and ending in 2031, equal to the lesser of (A) 5% of the shares of our common stock outstanding (on an as converted basis) on the last day of the immediately preceding fiscal year and (B) such smaller number of shares of stock as determined by our board of directors; provided, however, that no more than shares of Class A common stock may be issued upon the exercise of incentive stock options.

The following counting provisions will be in effect for the share reserve under the 2021 Plan:

•to the extent that an award (including a Prior Plan Award) terminates, expires or lapses for any reason or an award is settled in cash without the delivery of shares, any shares of Class A common stock or Class B common stock subject to the award at such time will be available for future grants under the 2021 Plan;

•to the extent shares of Class A common stock or Class B common stock are tendered or withheld to satisfy the grant, exercise price or tax withholding obligation with respect to any award under the 2021 Plan or Prior Plan Award, such tendered or withheld shares will be available for future grants under the 2021 Plan;

•to the extent shares subject to stock appreciation rights are not issued in connection with the stock settlement of stock appreciation rights on exercise thereof, such shares will be available for future grants under the 2021 Plan;

•to the extent that shares of our common stock are repurchased by us prior to vesting so that shares are returned to us, such shares will be available for future grants under the 2021 Plan;

•the payment of dividend equivalents in cash in conjunction with any outstanding awards or Prior Plan Awards will not be counted against the shares available for issuance under the 2021 Plan; and •to the extent permitted by applicable law or any exchange rule, shares issued in assumption of, or in substitution for, any outstanding awards of any entity acquired in any form of combination by us or any of our subsidiaries will not be counted against the shares available for issuance under the 2021 Plan.

In addition, the sum of the grant date fair value of all equity-based awards and the maximum that may become payable pursuant to all cash-based awards to any individual for services as a non-employee director during any calendar year may not exceed $.

Administration. The compensation and leadership committee of our board of directors is expected to administer the 2021 Plan unless our board of directors assumes authority for administration. The compensation and leadership committee must consist of at least three members of our board of directors, each of whom is intended to qualify as a "non-employee director" for purposes of Rule 16b-3 under the Exchange Act and an "independent director" within the meaning of the rules of the applicable stock exchange, or other principal securities market on which shares of our common stock are traded. The 2021 Plan provides that the board or compensation and leadership committee may delegate its authority to grant awards to employees other than executive officers and certain senior executives of the company to a committee consisting of one or more members of our board of directors or one or more of our officers, other than awards made to our non-employee directors, which must be approved by our full board of directors.

Subject to the terms and conditions of the 2021 Plan, the administrator has the authority to select the persons to whom awards are to be made, to determine the number of shares to be subject to awards and the terms and conditions of awards, and to make all other determinations and to take all other actions necessary or advisable for the administration of the 2021 Plan. The administrator is also authorized to adopt, amend or rescind rules relating to administration of the 2021 Plan. Our board of directors may at any time remove the compensation and leadership committee as the administrator and revest in itself the authority to administer the 2021 Plan. The full board of directors will administer the 2021 Plan with respect to awards to non-employee directors.

Eligibility. Options, SARs, restricted stock and all other stock-based and cash-based awards under the 2021 Plan may be granted to individuals who are then our officers, employees or consultants or are the officers, employees or consultants of certain of our subsidiaries. Such awards also may be granted to our directors. Only employees of our company or certain of our subsidiaries may be granted incentive stock options (ISOs).

Awards. The 2021 Plan provides that the administrator may grant or issue stock options (SARs) restricted stock, restricted stock units, other stock- or cash-based awards and dividend equivalents, or any combination thereof. Each award will be set forth in a separate agreement with the person receiving the award and will indicate the type, terms and conditions of the award.

•Nonstatutory Stock Options (NSOs) will provide for the right to purchase shares of our common stock at a specified price which may not be less than fair market value on the date of grant, and usually will become exercisable (at the discretion of the administrator) in one or more installments after the grant date, subject to the participant's continued employment or service with us and/or subject to the satisfaction of corporate performance targets and individual performance targets established by the administrator. NSOs may be granted for any term specified by the administrator that does not exceed ten years.

•Incentive Stock Options will be designed in a manner intended to comply with the provisions of Section 422 of the Internal Revenue Code of 1986, as amended (the Code), and will be subject to specified restrictions contained in the Code. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant, may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant. In the case of an ISO granted to an individual who owns (or is deemed to own) at least 10% of the total combined voting power of all classes of our capital stock, the 2021 Plan provides that the exercise price must be at least 110% of the fair market value of a share of common stock on the date of grant and the ISO must not be exercisable after a period of five years measured from the date of grant.

•Restricted Stock may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold or otherwise transferred until restrictions are removed or expire. Purchasers of restricted stock, unlike recipients of options, will have voting rights and will have the right to receive dividends, if any, prior to the time when the restrictions lapse, however, extraordinary dividends will generally be placed in escrow, and will not be released until restrictions are removed or expire.

•Restricted Stock Units may be awarded to any eligible individual, typically without payment of consideration, but subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Like restricted stock, restricted stock units may not be sold, or otherwise transferred or hypothecated, until vesting conditions are removed or expire. Unlike restricted stock, stock underlying restricted stock units will not be issued until the restricted stock units have vested, and recipients of restricted stock units generally will have no voting or dividend rights prior to the time when vesting conditions are satisfied.

•Stock Appreciation Rights may be granted in connection with stock options or other awards, or separately. SARs granted in connection with stock options or other awards typically will provide for payments to the holder based upon increases in the price of our common stock over a set exercise price. The exercise price of any SAR granted under the 2021 Plan must be at least 100% of the fair market value of a share of our common stock on the date of grant. SARs under the 2021 Plan will be settled in cash or shares of our common stock, or in a combination of both, at the election of the administrator.

•Other Stock or Cash Based Awards are awards of cash, fully vested shares of our common stock and other awards valued wholly or partially by referring to, or otherwise based on, shares of our common stock. Other stock or cash based awards may be granted to participants and may also be available as a payment form in the settlement of other awards, as standalone payments and as payment in lieu of base salary, bonus, fees or other cash compensation otherwise payable to any individual who is eligible to receive awards. The plan administrator will determine the terms and conditions of other stock or cash based awards, which may include vesting conditions based on continued service, performance and/or other conditions.

•Dividend Equivalents represent the right to receive the equivalent value of dividends paid on shares of our common stock and may be granted alone or in tandem with awards other than stock options or SARs. Dividend equivalents are credited as of dividend payments dates during the period between a specified date and the date such award terminates or expires, as determined by the plan administrator. In addition, dividend equivalents with respect to shares covered by a performance award will only be paid to the participant at the same time or times and to the same extent that the vesting conditions, if any, are subsequently satisfied and the performance award vests with respect to such shares.

Any award may be granted as a performance award, meaning that the award will be subject to vesting and/or payment based on the attainment of specified performance goals.

Change in Control. In the event of a change in control, unless the plan administrator elects to terminate an award in exchange for cash, rights or other property, or cause an award to accelerate in full prior to the change in control, such award will continue in effect or be assumed or substituted by the acquirer, provided that any performance-based portion of the award will be subject to the terms and conditions of the applicable award agreement. In the event the acquirer refuses to assume or replace awards granted, prior to the consummation of such transaction, awards issued under the 2021 Plan will be subject to accelerated vesting such that 100% of such awards will become vested and exercisable or

payable, as applicable. The administrator may also make appropriate adjustments to awards under the 2021 Plan and is authorized to provide for the acceleration, cash-out, termination, assumption, substitution or conversion of such awards in the event of a change in control or certain other unusual or nonrecurring events or transactions.

Adjustments of Awards. In the event of any stock dividend or other distribution, stock split, reverse stock split, reorganization, combination or exchange of shares, merger, consolidation, split-up, spin-off, recapitalization, repurchase or any other corporate event affecting the number of outstanding shares of our common stock or the share price of our common stock that would require adjustments to the 2021 Plan or any awards under the 2021 Plan in order to prevent the dilution or enlargement of the potential benefits intended to be made available thereunder, the administrator will make appropriate, proportionate adjustments to: (i) the aggregate number and type of shares subject to the 2021 Plan; (ii) the number and kind of shares subject to outstanding awards and terms and conditions of outstanding awards (including, without limitation, any applicable performance targets or criteria with respect to such awards); and (iii) the grant or exercise price per share of any outstanding awards under the 2021 Plan.

Amendment and Termination. The administrator may terminate, amend or modify the 2021 Plan at any time and from time to time. However, we must generally obtain stockholder approval to the extent required by applicable law, rule or regulation (including any applicable stock exchange rule). Notwithstanding the foregoing, an option may be amended to reduce the per share exercise price below the per share exercise price of such option on the grant date and options may be granted in exchange for, or in connection with, the cancellation or surrender of options having a higher per share exercise price without receiving additional stockholder approval.

No incentive stock options may be granted pursuant to the 2021 Plan after the tenth anniversary of the effective date of the 2021 Plan, and no additional annual share increases to the 2021 Plan's aggregate share limit will occur from and after such anniversary. Any award that is outstanding on the termination date of the 2021 Plan will remain in force according to the terms of the 2021 Plan and the applicable award agreement.

Amended and Restated 2011 Equity Incentive Plan

We currently maintain the 2011 Plan, which became effective on October 18, 2011 upon its adoption by our board of directors. Following this offering and in connection with the effectiveness of our 2021 Plan, the 2011 Plan will terminate and no further awards will be granted under the 2011 Plan. However, all outstanding awards will continue to be governed by their existing terms.

Administration. Our board of directors, the compensation and leadership committee or another committee thereof appointed by our board of directors, has the authority to administer the 2011 Plan and the awards granted under it. The administrator has the authority to select the service providers to whom awards will be granted under the 2011 Plan, the number of shares to be subject to those awards under the 2011 Plan, and the terms and conditions of the awards granted. In addition, the administrator has the authority to construe and interpret the 2011 Plan and to adopt rules for the relating to the 2011 Plan, and exercise such other powers that it deems necessary and desirable to promote the bests interests of the company and that are consistent with the terms of the 2011 Plan.

Share Reserve. As of March 31, 2021, we had reserved an aggregate of 10,113,254 shares of our common stock for issuance under the 2011 Plan. As of March 31, 2021, options to purchase a total of 7,770,502 shares of our common stock and 41,917 RSUs were outstanding and 715,321 shares remained available for future grants.

Awards. The 2011 Plan provides that the administrator may grant or issue options, including ISOs and NSOs, and stock purchase rights to employees, consultants and directors; provided that only employees may be granted ISOs.

•Stock Options. The 2011 Plan provides for the grant of ISOs or NSOs. ISOs may be granted only to employees. NSOs may be granted to employees, directors or consultants. The exercise price of ISOs granted to employees who at the time of grant own stock representing more than 10% of the voting power of all classes of our common stock may not be less than 110% of the fair market value per share of our common stock on the date of grant, and the exercise price of ISOs granted to any other employees may not be less than 100% of the fair market value per share of our common stock on the date of grant. The exercise price of NSOs to employees, directors or consultants may not be less than 100% of the fair market value per share of our common stock on the date of grant.

•Stock Purchase Rights. The 2011 Plan provides for the grant of stock purchase rights. Each stock purchase right that is accepted will be governed by a restricted stock purchase agreement, which will detail the restrictions on transferability, risk of forfeiture and other restrictions the administrator approves. In general, restricted stock acquired upon exercise of a stock purchase right may not be sold, transferred, pledged, hypothecated, margined or otherwise encumbered until restrictions are removed or expire. Holders of restricted stock, unlike recipients of stock options, will have voting rights and will have the right to receive dividends, if any, prior to the time when the restrictions lapse.

•Restricted Stock Units. The 2011 Plan provides for the grant of restricted stock units. Each restricted stock unit represents the unfunded, unsecured right to receive a share of our common stock or an amount of cash or other consideration equal to the fair market value of a share of our common stock. The terms of each award of restricted stock units are set forth in a restricted stock unit agreement.

Adjustments of Awards. In the event of any dividend or other distribution, reorganization, merger, consolidation, combination, repurchase, liquidation, dissolution, or sale, transfer, exchange or other disposition of substantially all of our assets, or exchange of shares or other similar corporate transaction or event, other than with respect to an equity restructuring (such as a stock split, stock dividend, spin-off or recapitalization), the administrator will make adjustments to the number and class of shares available for issuance under the 2011 Plan and the number, class and

price of shares subject to outstanding awards, in order to prevent dilution or enlargement of benefits. In the event of an equity restructuring of the company, the number, class and price of shares subject to outstanding options and stock purchase rights, and the number and class of shares available for issuance under the 2011 Plan will be proportionately adjusted by the administrator.

Change in Control. In the event of a change in control, any outstanding awards granted prior to September 12, 2012 may be assumed or substituted and where the acquirer does not assume or replace such awards, prior to the consummation of such transaction, such outstanding awards will accelerate in full. Otherwise, in the event of a merger or change in control, the administrator has broad discretion to determine the treatment of each outstanding award, including providing for awards to terminate or accelerate in full immediately prior to the change in control or for awards to terminate in exchange for cash or other property .

Amendment and Termination. Our board of directors may amend or terminate the 2011 Plan or any portion thereof at any time. However, no amendment may impair the rights of a holder of an outstanding award without the holder's consent, and any action by our board of directors to increase the number of shares subject to the plan or extend the term of the plan is subject to the approval of our stockholders. Additionally, an amendment of the plan shall be subject to the approval of our stockholders, where such approval by our stockholders of an amendment is required by applicable law. Following this offering and in connection with the effectiveness of our 2021 Plan, the 2011 Plan will terminate and no further awards will be granted under the 2011 Plan.

2021 Employee Stock Purchase Plan

We intend to adopt and ask our stockholders to approve the 2021 Employee Stock Purchase Plan, which we refer to as our ESPP, which will be effective upon the day prior to the effectiveness of the registration statement to which this prospectus relates. The ESPP is designed to allow our eligible employees to purchase shares of our common stock, at semi-annual intervals, with their accumulated payroll deductions. The ESPP is intended to qualify under Section 423 of the Code. The material terms of the ESPP, as it is currently contemplated, are summarized below.

Administration. Subject to the terms and conditions of the ESPP, our compensation and leadership committee will administer the ESPP. Our compensation and leadership committee can delegate administrative tasks under the ESPP to the services of an agent and/or employees to assist in the administration of the ESPP. The administrator will have the discretionary authority to administer and interpret the ESPP. Interpretations and constructions of the administrator of any provision of the ESPP or of any rights thereunder will be conclusive and binding on all persons. We will bear all expenses and liabilities incurred by the ESPP administrator.

Share Reserve. The maximum number of shares of our common stock which will be authorized for sale under the ESPP is equal to the sum of (a) shares of common stock and (b) an annual increase on the first day of each fiscal year beginning in 2022 and ending in 2031, equal to the lesser of (i) 1% of the shares of our common stock outstanding (on an as converted basis) on the last day of the immediately preceding fiscal year and (ii) such number of shares of common stock as determined by our board of directors; provided, however, no more than shares of our common stock may be issued under the ESPP. The shares reserved for issuance under the ESPP may be authorized but unissued shares or reacquired shares.

Eligibility. Employees eligible to participate in the ESPP for a given offering period generally include employees who are employed by us or one of our subsidiaries on the first day of the offering period, or the enrollment date. Our employees (and, if applicable, any employees of our subsidiaries) who customarily work less than five months in a calendar year or are customarily scheduled to work less than 20 hours per week will not be eligible to participate in the ESPP. Finally, an employee who owns (or is deemed to own through attribution) 5% or more of the combined voting power or value of all our classes of stock or of one of our subsidiaries will not be allowed to participate in the ESPP.

Participation. Employees will enroll under the ESPP by completing a payroll deduction form permitting the deduction from their compensation of at least 1% of their compensation but not more than the lesser of 15% of their compensation or such other limit as determined by the company. Such payroll deductions may be expressed as either a whole number percentage or a fixed dollar amount, and the accumulated deductions will be applied to the purchase of shares on each purchase date. However, a participant may not purchase more than shares in each offering period and may not subscribe for more than $ in fair market value of shares of our common stock (determined at the time the option is granted) during any calendar year. The ESPP administrator has the authority to change these limitations for any subsequent offering period.

Offering. Under the ESPP, participants are offered the option to purchase shares of our common stock at a discount during a series of successive offering periods, the duration and timing of which will be determined by the ESPP administrator. However, in no event may an offering period be longer than 27 months in length.

The option purchase price will be the lower of 85% of the closing trading price per share of our common stock on the first trading date of an offering period in which a participant is enrolled or 85% of the closing trading price per share on the purchase date, which will occur on the last trading day of each offering period.

Unless a participant has previously canceled his or her participation in the ESPP before the purchase date, the participant will be deemed to have exercised his or her option in full as of each purchase date. Upon exercise, the participant will purchase the number of whole shares that his or her accumulated payroll deductions will buy at the option purchase price, subject to the participation limitations listed above.

A participant may cancel his or her payroll deduction authorization at any time prior to the end of the offering period. Upon cancellation, the participant will have the option to either (i) receive a refund of the participant's account balance in cash without interest or (ii) exercise the participant's option for the current offering period for the maximum number of shares of common stock on the applicable purchase date, with the remaining account balance refunded in cash without interest. Following at least one payroll deduction, a participant may also decrease (but not

increase) his or her payroll deduction authorization once during any offering period. If a participant wants to increase or decrease the rate of payroll withholding, he or she may do so effective for the next offering period by submitting a new form before the offering period for which such change is to be effective.

A participant may not assign, transfer, pledge or otherwise dispose of (other than by will or the laws of descent and distribution) payroll deductions credited to a participant's account or any rights to exercise an option or to receive shares of our common stock under the ESPP, and during a participant's lifetime, options in the ESPP shall be exercisable only by such participant. Any such attempt at assignment, transfer, pledge or other disposition will not be given effect.

Adjustments upon Changes in Recapitalization, Dissolution, Liquidation, Merger or Asset Sale. In the event of any increase or decrease in the number of issued shares of our common stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the common stock, or any other increase or decrease in the number of shares of common stock effected without receipt of consideration by us, we will proportionately adjust the aggregate number of shares of our common stock offered under the ESPP, the number and price of shares which any participant has elected to purchase under the ESPP and the maximum number of shares which a participant may elect to purchase in any single offering period. If there is a proposal to dissolve or liquidate us, then the ESPP will terminate immediately prior to the consummation of such proposed dissolution or liquidation, and any offering period then in progress will be shortened by setting a new purchase date to take place before the date of our dissolution or liquidation. We will notify each participant of such change in writing at least ten business days prior to the new exercise date. If we undergo a merger with or into another corporation or sell all or substantially all of our assets, each outstanding option will be assumed or an equivalent option substituted by the successor corporation or the parent or subsidiary of the successor corporation. If the successor corporation refuses to assume the outstanding options or substitute equivalent options, then any offering period then in progress will be shortened by setting a new purchase date to take place before the date of our proposed sale or merger. We will notify each participant of such change in writing at least ten business days prior to the new exercise date.

Amendment and Termination. Our board of directors may amend, suspend or terminate the ESPP at any time. However, the board of directors may not amend the ESPP without obtaining stockholder approval within 12 months before or after such amendment to the extent required by applicable laws.

Certain Relationships and Related Party Transactions

The following includes a summary of transactions since January 1, 2018 and any currently proposed transactions to which we were or are expected to be a participant in which (1) the amount involved exceeded or will exceed $120,000, and (2) any of our directors, executive officers, or holders of more than 5% of our capital stock, or any affiliate or member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described under the sections titled "Executive Compensation" and "Management—Director Compensation" and the registration rights described in the section titled "Description of Capital Stock—Registration Rights."

2020 Secondary Sales

In November 2020, we entered into an agreement with certain holders of our capital stock pursuant to which we agreed to waive certain transfer restrictions in connection with, and assist in the administration of a secondary offering of our capital stock, or the secondary offering. The secondary offering involved the following transactions in which any of our directors, executive officers and holders of more than 5% of our capital stock, or any affiliate or member of the immediate family of the foregoing persons, had a direct or indirect material interest:

•Luis von Ahn, our President, Chief Executive Officer, member of our board of directors, and holder of more than 5% of our capital stock sold 158,942 shares of our capital stock to a third party at a purchase price per share of $59.77 for an aggregate purchase price of approximately $9.5 million.

•Severin Hacker, our Chief Technology Officer, member of our board of directors, and holder of more than 5% of our capital stock sold 158,942 shares of our capital stock to a third party at a purchase price per share of $59.77 for an aggregate purchase price of approximately $9.5 million.

Series H Convertible Preferred Stock Financing and Secondary Sales

In November 2020, we issued an aggregate of 334,642 shares of our Series H convertible preferred stock to General Atlantic (DU), L.P. (General Atlantic) at a price per share of $59.7653 for proceeds to us of approximately $20.0 million. General Atlantic also purchased, at a price per share of $59.7653, an aggregate of 246,000 shares of our Series B, C and D convertible preferred stock from entities affiliated with Union Square Ventures, a holder of more than 5% of our capital stock and where Brad Burnham, who was then a member of our board of directors, serves as a general partner. Upon the consummation of the foregoing transactions, General Atlantic became the holder of more than 5% of our capital stock.

Series F Convertible Preferred Stock Financing

In November 2019, we issued an aggregate of 758,146 shares of our Series F convertible preferred stock to CapitalG II LP (CapitalG), a holder of more than 5% of our capital stock, at a price per share of $39.5702 for proceeds to us of approximately $30.0 million.

Investors' Rights Agreement

We are party to an Amended and Restated Investors' Rights Agreement, dated as of November 6, 2020 (Investors' Rights Agreement), with certain holders of our capital stock, including the following holders of more than 5% of our capital stock: entities affiliated with Union Square Ventures, Kleiner Perkins Caufield & Byers, CapitalG, NewView Capital Fund I, L.P. (NewView), and General Atlantic. This agreement provides, among other things, that certain holders of our capital stock have the right to request that we file a registration statement, and/or request that their shares be covered by a registration statement that we are otherwise filing, subject to certain exceptions. See the section titled "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights.

Voting Agreement

We are party to an Amended and Restated Voting Agreement, dated as of November 6, 2020 (Voting Agreement), under which certain holders of our capital stock, including Drs. von Ahn and Hacker, and entities affiliated with Union Square Ventures, Kleiner Perkins Caufield & Byers, CapitalG, NewView and General Atlantic, have agreed to vote their shares on certain matters, including with respect to the election of directors. In connection with this offering, the Voting Agreement will terminate and none of our stockholders will have any special rights regarding the election or designation of members of our board of directors, the voting of our capital stock, or the restrictions on transfer pursuant to the agreement.

Right of First Refusal and Co-Sale Agreement

We are party to an Amended and Restated Right of First Refusal and Co-Sale Agreement, dated as of November 6, 2020 (Right of First Refusal and Co-Sale Agreement), with certain holders of our capital stock, including Drs. von Ahn and Hacker, and entities affiliated with Union Square Ventures, Kleiner Perkins Caufield & Byers, CapitalG, NewView and General Atlantic. This agreement provides for rights of first refusal and co-sale relating to the shares of our common stock held by certain parties to the agreement. In connection with this offering, the Right of First Refusal and Co-Sale Agreement will terminate.

Founder Exchange Agreement

In order to effect the Common Stock Reclassification and Exchange, we intend to enter into an exchange agreement with our Founders, Luis von Ahn and Severin Hacker, pursuant to which an aggregate of 6,930,334 shares of Class A common stock held by our Founders will be exchanged into an equivalent number of shares of Class B common stock prior to the completion of this offering. In addition, prior to the completion of this offering, each stock option and award of RSUs held by Drs. von Ahn and Hacker will be amended to provide that such option or award will be exercised into or settle in shares of Class B common stock.

Indemnification Agreements

We have entered into indemnification agreements with each of our current directors, and intend to enter into new indemnification agreements with each of our current directors and officers. Our amended and restated certificate of incorporation and our amended and restated bylaws provide that we will indemnify our directors and officers to the fullest extent permitted by applicable law. See the section titled "Management—Limitation on Liability and Indemnification Matters."

Policies and Procedures for Related Party Transactions

Our board of directors intends to adopt a written related party transaction policy, to be effective upon the completion of this offering, setting forth the policies and procedures for the review and approval or ratification of related party transactions. This policy will cover, with certain exceptions set forth in Item 404 of Regulation S-K under the Securities Act, any transaction, arrangement, or relationship, or any series of similar transactions, arrangements, or relationships in which we were or are to be a participant, where the amount involved exceeds $120,000 and a related party had or will have a direct or indirect material interest, including without limitation purchases of goods or services by or from the related party or entities in which the related party has a material interest, indebtedness, guarantees of indebtedness, and employment by us of a related party. In reviewing and approving any such transactions, our audit, risk and compliance committee is tasked to consider all relevant facts and circumstances, including but not limited to whether the transaction is on terms comparable to those that could be obtained in an arm's length transaction with an unrelated third party and the extent of the related party's interest in the transaction. All of the transactions described in this section occurred prior to the adoption of this policy.

Principal and Selling Stockholders

The following table sets forth certain information with respect to the beneficial ownership of our common stock as of March 31, 2021, and as adjusted to reflect our sale of our Class A common stock in this offering, for:

•each of our named executive officers;

•each of our current directors;

•all of our executive officers and current directors as a group;

•each person known by us to be the beneficial owner of more than 5% of any class of our voting securities; and •each of the selling stockholders.

We have determined beneficial ownership in accordance with the rules of the SEC, and thus it represents sole or shared voting or investment power with respect to our securities. Unless otherwise indicated below, to our knowledge, the persons and entities named in the table have sole voting and sole investment power with respect to all shares that they beneficially owned as of March 31, 2021, subject to community property laws where applicable. We have deemed shares of our common stock subject to stock options that are currently exercisable or will be exercisable within 60 days of March 31, 2021, to be outstanding and to be beneficially owned by the person holding the stock option for the purpose of computing the percentage ownership of that person. However, we did not deem these shares subject to stock options outstanding for the purpose of computing the percentage ownership of any other person or entity.

We have based percentage ownership of our common stock before this offering on 6,187,542 shares of our Class A common stock and 26,004,610 shares of our Class B common stock outstanding as of March 31, 2021, in each case, after giving effect to the Transactions, as if the Transactions had occurred as of March 31, 2021. The percentage ownership of our common stock after this offering also assumes the foregoing and the issuance and sale of shares by us in this offering, and does not include the exercise of the underwriters' option to purchase additional shares from us.

In connection with this offering, our board of directors approved the reclassification of all outstanding shares of common stock and all shares of common stock underlying outstanding equity awards under our 2011 Plan into shares of Class A common stock, and all holders of such outstanding shares or equity awards hold a one-time right to exchange such shares of Class A common stock or the shares of Class A common stock issuable upon vesting or exercise of such equity awards, as applicable, for an equal number of shares of Class B common stock, which, in the case of equity awards, may be exercised prior to, at or following the vesting or exercise of the equity award. We have assumed for purposes of the table set forth below that solely our Founders have exercised this right. Class A common stock subject to stock options exercisable or RSUs subject to vesting within 60 days of March 31, 2021 are shown in the table below as Class A common stock or, in the case of our Founders, as Class B common stock, in "Shares Beneficially Owned Prior to this Offering" and "Shares Beneficially Owned After this Offering." See the section titled "Description of Capital Stock" for additional information.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Duolingo, Inc., 5900 Penn Avenue, Pittsburgh, Pennsylvania 15206.

	Shares Beneficially Owned Prior to this Offering					Shares Beneficially Owned After this Offering				
	Class A		Class B			Class A		Class B		
Name of Beneficial Owner	Shares	%	Shares	%	% of VotingPowerBeforethisOffering	Shares	%	Shares	%	% of VotingPowerAfter thisOffering
5% Stockholders:										
NewView Capital Fund I, L.P.(1)	—	*	5,239,835	20.1	19.9					
Entities affiliated with Union Square Ventures(2)	—	*	3,697,944	14.2	14.1					
Entities affiliated with CapitalG(3)	—	*	3,561,523	13.7	13.5					
KPCB Holdings, Inc., as nominee(4)	—	*	2,723,033	10.5	10.3					
General Atlantic (DU), L.P.(5)	—	*	1,849,286	7.1	7.0					
Executive Officers and Directors:										
Luis von Ahn(6)	—	*	3,915,333	14.8	14.6					
Severin Hacker(7)	—	*	3,915,333	14.8	14.6					
Matt Skaruppa(8)	95,675	1.5	—	*	*					
Amy Bohutinsky	—	*	—	*	*					
Sara Clemens	—	*	—	*	*					
Bing Gordon(9)	12,500	*	—	*	*					
Gillian Munson(9)	12,500	*	—	*	*					
Jim Shelton	—	*	—	*	*					
Laela Sturdy	—	*	—	*	*					
All current executive officers and directors as a group (12 persons)	660,533	10.0	7,830,666	29.1	28.9					
Other selling stockholders:										

*Represents less than 1% (1)Consists of 4,916,730 shares of our Class B common stock issuable upon conversion of our Series B preferred stock, 147,894 shares of our Class B common stock issuable upon conversion of our Series C preferred stock and 175,211 shares of our Class B common stock issuable upon conversion of our Series D preferred stock held directly by NewView Capital Fund I, L.P. (NewView Fund I). NewView Capital Partners I, LLC is the general partner of NewView Fund I. Ravi Viswanathan is the managing member of NewView Capital Partners I, LLC and therefore may be deemed to hold voting and dispositive power over the shares held by NewView Fund I. The business address of each of the persons and entities identified in this footnote is c/o NewView Capital, 1201 Howard Avenue, Suite 101, Burlingame, CA 94010.

(2)Consists of (i) 2,394,100 shares of our Class B common stock issuable upon conversion of our Series A preferred stock and 1,166,113 shares of our Class B common stock issuable upon conversion of our Series B preferred stock held directly by Union Square Ventures 2012 Fund, L.P. (USV 2012 Fund), and (ii) 92,618 shares of our Class B common stock issuable upon conversion of our Series A preferred stock and 45,113 shares of our Class B common stock issuable upon conversion of our Series B preferred stock held directly by USV Investors 2012 Fund, L.P. (USV Investors 2012 Fund). Union Square 2012 GP, L.L.C. (Union Square 2012) is the general partner of USV 2012 Fund and USV Investors 2012 Fund, and has sole voting and investment power with regard to the shares held by USV 2012 Fund and USV Investors 2012 Fund. We refer to Union Square 2012 and affiliated entities as Union Square Ventures. Fred Wilson, Brad Burnham, Albert Wenger, John Buttrick, and Andy Weissman are partners at Union Square Ventures and, therefore, may be deemed to have shared voting and investment power with regard to the shares held directly by Union Square Ventures. The address for each of these entities is 920 Broadway, 2nd Floor New York, NY 10010.

(3)Consists of (i) 1,690,436 shares of our Class B common stock issuable upon conversion of our Series D preferred stock held directly by CapitalG 2014 LP, (ii) 1,112,941 shares of our Class B common stock issuable upon conversion of our Series D preferred stock held directly by CapitalG 2015 LP, and (iii) 758,146 shares of our Class B common stock issuable upon conversion of our Series F preferred stock held directly by CapitalG II LP. CapitalG 2014 GP LLC, the general partner of CapitalG 2014 LP, Alphabet Holdings LLC, the managing member of CapitalG 2014 GP LLC, XXVI Holdings Inc., the managing member of Alphabet Holdings LLC, and Alphabet Inc., the controlling stockholder of XXVI Holdings Inc., may each be deemed to have sole voting and dispositive power with respect to the shares held directly by CapitalG 2014 LP. CapitalG 2015 GP LLC, the general partner of CapitalG 2015 LP, Alphabet Holdings LLC, the managing member of CapitalG 2015 GP LLC, XXVI Holdings Inc., the managing member of Alphabet Holdings LLC, and Alphabet Inc., the controlling stockholder of XXVI Holdings Inc., may each be deemed to have sole voting and dispositive power with respect to the shares held directly by CapitalG 2015 LP. CapitalG II GP LLC, the general partner of CapitalG II LP, Alphabet Holdings LLC, the managing member of CapitalG II GP LLC, XXVI Holdings Inc., the managing member of Alphabet Holdings LLC, and Alphabet Inc., the controlling stockholder of XXVI Holdings Inc., may each be deemed to have sole voting and dispositive power with respect to the shares held directly by CapitalG II LP. Each of CapitalG 2014 GP LLC, CapitalG 2015 GP LLC, CapitalG II GP LLC, Alphabet Holdings LLC, XXVI Holdings Inc., and Alphabet Inc. disclaims beneficial ownership of these shares, except to the extent of any pecuniary interest therein. The principal business address for these entities is 1600 Amphitheatre Parkway, Mountain View, California, 94043.

(4)Consists of (i) 2,500,670 shares of our Class B common stock issuable upon the conversion of our Series C preferred stock held by KPCB Digital Growth Fund, LLC (KPCB DGF) and 152,279 shares of our Class B common stock issuable upon the conversion of our Series C preferred stock held by KPCB Digital Growth Founders Fund, LLC (KPCB DGF FF), and (ii) 66,061 shares of our Class B common stock issuable upon the conversion of our Series D preferred stock held by KPCB DGF and 4,023 shares of our Class B common stock issuable upon the conversion of our Series D preferred stock held by KPCB DGF FF. All shares are held for convenience in the name of "KPCB Holdings, Inc., as nominee" for the accounts of such entities. The managing member of KPCB DGF and KPCB DGF FF is KPCB DGF Associates, LLC (KPCB DGF Associates). L. John Doerr, Brook Byers, Mary Meeker, William “Bing” Gordon, a member of our board of directors, and Theodore E. Schlein, the managing members of KPCB DGF Associates, exercise shared voting and dispositive control over the shares held by KPCB DGF and KPCB DGF FF. Such managing members disclaim beneficial ownership of all shares held by KPCB DGF and KPCB DGF FF except to the extent of their pecuniary interest therein. The principal business address for all entities and individuals affiliated with Kleiner Perkins Caufield & Byers is c/o Kleiner Perkins Caufield & Byers, LLC, 2750 Sand Hill Road, Menlo Park, CA 94025.

(5)Consists of 1,026,986 shares of our Class B common stock issuable upon conversion of our Series A preferred stock, 94,798 shares of our Class B common stock issuable upon conversion of our Series B preferred stock, 88,126 shares of our Class B common stock issuable upon conversion of our Series C preferred stock, 63,076 shares of our Class B common stock issuable upon conversion of our Series D preferred stock, 241,658 shares of our Class B common stock issuable upon conversion of our Series G preferred stock and 334,642 shares of our Class B common stock issuable upon conversion of our Series H preferred stock held directly by General Atlantic (DU), L.P. The limited partners that share beneficial ownership of the shares held by General Atlantic (DU), L.P. (GA DU) are the following General Atlantic investment funds (the GA Funds): General Atlantic Partners 100, L.P. (GAP 100), General Atlantic Partners (Bermuda) EU, L.P. (GAP Bermuda EU), General Atlantic Partners (Lux) SCSp (GAP Lux), GAP Coinvestments III, LLC (GAPCO III), GAP Coinvestments IV, LLC (GAPCO IV), GAP Coinvestments V, LLC (GAPCO V) and GAP Coinvestments CDA, L.P. (GAPCO CDA). The general partner of GA DU is General Atlantic (SPV) GP, LLC (GA SPV). The general partner of GAP Lux is General Atlantic GenPar (Lux) SCSp (GA GenPar Lux) and the general partner of GA GenPar Lux is General Atlantic (Lux) S.à r.l. (GA Lux). The general partner of GAP Bermuda EU and the sole shareholder of GA Lux is General Atlantic GenPar (Bermuda), L.P. (GenPar Bermuda). GAP (Bermuda) Limited (GAP (Bermuda) Limited) is the general partner of GenPar Bermuda. The general partner of GAP 100 is General Atlantic GenPar, L.P. (GA GenPar) and the general partner of GA GenPar is General Atlantic LLC (GA LLC). GA LLC is the managing member of GAPCO III, GAPCO IV and GAPCO V, the general partner of GAPCO CDA and is the sole member of GA SPV. There are nine members of the

management committee of GA LLC (the GA Management Committee). The GA Management Committee includes William E. Ford, Gabriel Caillaux, Andrew Crawford, Martín Escobari, Anton Levy, Sandeep Naik, E. Graves Tompkins, N. Robbert Vorhoff and Chi Eric Zhang. The members of the GA Management Committee are also the members of the management committee of GAP (Bermuda) Limited. GA DU, GA SPV, GA GenPar Lux, GA Lux, GenPar Bermuda, GAP (Bermuda) Limited, GA GenPar, GA LLC and the GA Funds (collectively, the GA Group) are a "group" within the meaning of Rule 13d-5 of the Securities Exchange Act of 1934, as amended. The mailing address of the foregoing General Atlantic entities (other than GAP Bermuda EU, GenPar Bermuda, GAP (Bermuda) Limited, GAP Lux, GA GenPar Lux and GA Lux) is c/o General Atlantic Service Company, L.P., 55 East 52nd Street, 33rd Floor, New York, NY 10055. The mailing address of GAP Bermuda EU, GenPar Bermuda, and GAP (Bermuda) Limited is Clarendon House, 2 Church Street, Hamilton HM 11, Bermuda. The mailing address of GAP Lux, GA GenPar Lux and GA Lux is Luxembourg is 412F, Route d'Esch, L-2086 Luxembourg. Each of the members of the GA Management Committee disclaims ownership of the shares except to the extent that he has a pecuniary interest therein.

(6)Consists of (i) 3,457,417 shares of our Class B common stock held directly by Dr. von Ahn, and (ii) 457,916 shares of our Class B common stock that may be acquired pursuant to the exercise of stock options within 60 days of March 31, 2021, including as a result of accelerated vesting in connection with this offering as described in the section titled "Executive Compensation-–Narrative to Summary Compensation Table-–Equity-Based Compensation.".

(7)Consists of (i) 3,457,417 shares of our Class B common stock held directly by a family trust of which Dr. Hacker is a trustee, (ii) 15,500 shares of our Class B common stock held directly by Dr. Hacker, and (iii) 442,416 shares of our Class B common stock that may be acquired pursuant to the exercise of stock options within 60 days of March 31, 2021, including as a result of accelerated vesting in connection with this offering as described in the section titled "Executive Compensation–Narrative to Summary Compensation Table–Equity-Based Compensation."

(8)Consists of 95,675 shares of our Class A common stock that may be acquired pursuant to the exercise of stock options within 60 days of March 31, 2021.

(9)Consists of 12,500 shares of our Class A common stock that may be acquired pursuant to the exercise of stock options within 60 days of March 31, 2021.

Description of Capital Stock

The following summary describes our capital stock and the material provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, each of which will become effective immediately prior to the completion of this offering, the amended and restated investors' rights agreement to which we and certain of our stockholders are parties, and of the Delaware General Corporation Law. Because the following is only a summary, it does not contain all of the information that may be important to you. For a complete description, you should refer to our amended and restated certificate of incorporation, amended and restated bylaws, and amended and restated investors' rights agreement, copies of which have been filed as exhibits to the registration statement of which this prospectus is part.

General

Upon the completion of this offering and the filing of our amended and restated certificate of incorporation, our authorized capital stock will consist of:

•2,000,000,000 shares of Class A common stock, $0.0001 par value per share;

•30,000,000 shares of Class B common stock, $0.0001 par value per share; and •20,000,000 shares of preferred stock, $0.0001 par value per share.

Prior to the completion of this offering, we intend to (i) reclassify all outstanding shares of our common stock into an equal number of shares of our Class A common stock and all shares of common stock underlying outstanding equity awards under our 2011 Plan, other than those held by Luis von Ahn and Severin Hacker (our Founders), into shares of Class A common stock, (ii) amend the terms of our outstanding convertible preferred stock to provide that such shares are initially convertible into shares of Class B common stock, and (iii) amend the terms of outstanding equity awards held by our Founders to provide that such awards are exercisable for or settle into shares of Class B common stock. In addition, pursuant to an exchange agreement to be entered into with our Founders, our Founders will exchange all shares of Class A common stock held by them into an aggregate of 6,930,334 shares of Class B common stock (collectively, the Transactions).

After giving effect to the Transactions, as if such Transactions had occurred on March 31, 2021, there were 6,187,542 shares of Class A common stock and 26,004,610 shares of Class B common stock outstanding, held of record by 442 stockholders, and no shares of our convertible preferred stock outstanding. Our board of directors is authorized, without stockholder approval except as required by the Listing Rules of Nasdaq, to issue additional shares of our capital stock.

Class A and Class B Common Stock

We have two classes of authorized common stock: Class A and Class B common stock. All outstanding shares of our convertible preferred stock will be converted into shares of our Class B common stock immediately prior to the completion of this offering.

Voting Rights

Each holder of our Class A common stock is entitled to one vote per share, and each holder of our Class B common stock is entitled to 20 votes per share, on all matters submitted to a vote of the stockholders. The holders of our Class A and Class B common stock will generally vote together as a single class on all matters submitted to a vote of our stockholders, unless otherwise required by Delaware law or our amended and restated certificate of incorporation. Delaware law could require either holders of our Class A common stock or Class B common stock to vote separately as a single class in the following circumstances:

•if we were to seek to amend our amended and restated certificate of incorporation to increase or decrease the par value of a class of our capital stock, then that class would be required to vote separately to approve the proposed amendment; and •if we were to seek to amend our amended and restated certificate of incorporation in a manner that alters or changes the powers, preferences, or special rights of a class of our capital stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Our amended and restated certificate of incorporation will not provide for cumulative voting for the election of directors.

Dividend Rights

The holders of our Class A and Class B common stock are entitled to receive dividends as may be declared from time to time by our board of directors out of legally available funds. See the section titled “Dividend Policy” for additional information.

Conversion

Each outstanding share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. In addition, each share of Class B common stock will convert automatically into one share of Class A common stock upon any transfer, whether or not for value, which occurs after the completion of this offering, except for certain permitted transfers further described in our amended and restated certificate of incorporation, including estate planning or charitable transfers where exclusive voting control with respect to the shares of Class B common stock is retained by the transferring holder, transfers from one Founder to the other Founder, and transfers to affiliates or certain other related entities of the transferring holder.

All outstanding shares of our Class B common stock will convert automatically into shares of our Class A common stock at 5:00 p.m. New York City time on a date fixed by our board of directors that is not less than 60 days nor more than 180 days following the date the aggregate number of shares of our Class B common stock then outstanding ceases to represent at least 5% of the aggregate number of all shares of our common stock then outstanding. In addition, each share of Class B common stock held by our Founders (or any of such Founders’ permitted transferees, other than the other Founder) will automatically convert into one share of Class A common stock at 5:00 p.m. New York City time on a date fixed by our board of directors that is not less than 60 nor more than 180 days following the death or disability of such Founder.

Once converted into Class A common stock, the Class B common stock may not be reissued.

Liquidation

In the event of our liquidation, dissolution, or winding up, holders of our Class A and Class B common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities.

Rights and Preferences

Holders of our Class A and Class B common stock have no preemptive, conversion (except as noted above), or subscription rights, and there are no redemption or sinking fund provisions applicable to our Class A common stock or Class B common stock.

Fully Paid and Non-Assessable

All of the outstanding shares of our Class A and Class B common stock are fully paid and non-assessable.

Preferred Stock

Immediately prior to the completion of this offering, all of our currently outstanding shares of redeemable convertible preferred stock will convert into Class B common stock, and we will not have any shares of redeemable convertible preferred stock outstanding, whereupon our restated certificate of incorporation will be amended and restated to delete all references to such shares of redeemable convertible preferred stock. From and after the completion of this offering, our board of directors will have the authority, without further action by our stockholders, to issue up to 20,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, and restrictions thereof. These rights, preferences, and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms, and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of our common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring, or preventing a change in control of our company or other corporate action. Immediately after the completion of this offering, no shares of preferred stock will be outstanding, and we have no present plan to issue any shares of preferred stock.

Equity Plan Amendment

In connection with this offering, our board of directors amended our 2011 Plan to provide for outstanding equity awards granted thereunder to be exercisable for or settle in shares of Class A common stock, or, if provided by the administrator, shares of Class B common stock.

Stock Options

As of March 31, 2021, and after giving effect to the Transactions, we had outstanding options to purchase an aggregate of 6,736,002 shares of our Class A common stock, with a weighted-average exercise price of $9.64 per share, and 1,034,500 shares of our Class B common stock, with a weighted-average exercise price of $20.17 per share, in each case pursuant to our 2011 Plan. After March 31, 2021, we issued options to purchase an addition 71,700 shares of our Class A common stock pursuant to our 2011 Plan, at an exercise price of $52.80 per share.

Restricted Stock Units

As of March 31, 2021, and after giving effect to the Transactions, we had outstanding RSUs representing the right to receive upon vesting 41,917 shares of our Class A common stock. After March 31, 2021, we issued additional RSUs pursuant to our 2011 Plan representing the right to receive upon vesting 552,788 shares of our Class A common stock.

Registration Rights

Upon the completion of this offering, certain holders of our Class B common stock and Class A common stock will be entitled to rights with respect to the registration of their shares under the Securities Act. These registration rights are contained in the Investors' Rights Agreement. We and certain holders of our Class A common stock and convertible preferred stock are parties to the Investors' Rights Agreement. The registration rights set forth in the Investors' Rights Agreement terminate upon the earlier to occur of (1) three years following the completion of this offering, and (2) with respect to any particular stockholder, such earlier time after the completion of this offering, at which (x) such stockholder can sell all of its Registrable Securities, as defined in the Investors' Rights Agreement, in compliance with Rule 144(b)(1), or (y) such stockholder holds 1% or less of our outstanding common stock and such stockholder is able to sell all of its Registrable Securities, without restriction pursuant to Rule 144 during any three-month period. We will pay the registration expenses (other than any underwriting discounts and selling commissions) of the holders of the shares registered for sale pursuant to the registrations described below, including the reasonable fees of one counsel for the selling holders not to exceed $25,000. However, we will not be required to bear the expenses in connection with the exercise of the demand registration rights of a registration if the request is subsequently withdrawn at the request of the selling stockholders holding a majority of securities to be registered, subject to specified exceptions. In an underwritten public offering, the underwriters have the right, subject to specified conditions, to limit the number of shares such holders may include.

Demand Registration Rights

Upon the completion of this offering, the holders of up to approximately 19,074,276 shares of our Class B common stock will be entitled to certain demand registration rights. At any time beginning six months after the completion of this offering, the holders of at least 55% of these shares then outstanding can request that we register the offer and sale of their shares on a registration statement on Form S-1 if we are eligible to file a registration statement on Form S-1 so long as the request covers at least that number of shares with an anticipated offering price, net of underwriting discounts and commissions, of at least $15.0 million. We are obligated to effect only two such registrations. If we determine that it would materially impede, delay or interfere with any material pending or proposed transaction or require disclosure of material non-public information that that, if disclosed, would be materially harmful to the company and its stockholders, we have the right to defer such registration, not more than once in any 12-month period, for a period of up to 90 days.

S-3 Registration Rights

Upon the completion of this offering, the holders of up to approximately 19,074,276 shares of our Class B common stock will be entitled to certain Form S-3 registration rights. The holders of Registrable Securities may make a written request that we register the offer and sale of their shares on a registration statement on Form S-3 if we are eligible to file a registration statement on Form S-3 so long as the request covers at least that number of shares with an anticipated offering price (net of underwriting discounts and commissions) of at least $5.0 million. These stockholders may make an unlimited number of requests for registration on Form S-3; however, we will not be required to effect a registration on Form S-3 if we have effected two such registrations within the 12-month period preceding the date of the request. In addition, if we determine that it would be materially detrimental to us and our stockholders to effect such a registration, we have the right to defer such registration, not more than once in any 12-month period, for a period of up to 90 days. Lastly, we will not be required to effect a demand registration on Form S-3 if we give notice to such stockholders of our bona fide intention to file a registration statement within 120 days of receipt of a request for registration by such stockholders.

Piggyback Registration Rights

If we propose to register the offer and sale of our common stock under the Securities Act, in connection with the public offering of such common stock, the holders of up to approximately 19,074,276 shares of our Class B common stock will be entitled to certain "piggyback" registration rights allowing the holders to include their shares in such registration, subject to certain marketing and other limitations, which, in the case of an underwritten offering, will be in the sole discretion of the underwriters. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to (1) a demand registration described above, (2) a registration related solely to a company stock plan, (3) a

registration relating to a corporate reorganization or transaction under Rule 145 of the Securities Act, (4) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the public offering of our common stock, or (5) a registration in which the only common stock being registered is common stock issuable upon the conversion of debt securities that are also being registered, the holders of these shares are entitled to notice of the registration and have the right, subject to certain limitations, to include their shares in the registration.

Anti-Takeover Provisions

The provisions of the Delaware General Corporation Law, our amended and restated certificate of incorporation, and our amended and restated bylaws, which are summarized below, may have the effect of delaying, deferring, or discouraging another person from acquiring control of our company. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

We are governed by the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes mergers, asset sales, or other transactions resulting in a financial benefit to the stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation's outstanding voting stock. These provisions may have the effect of delaying, deferring, or preventing a change in our control.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaw Provisions

Our amended and restated certificate of incorporation and our amended and restated bylaws, each of which will become effective immediately prior to the completion of this offering, contain provisions that could make the following actions and transactions, among others, more difficult: acquisition of us by means of a tender offer; acquisition of us by means of a proxy contest or otherwise; or removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions that might result in a premium over the market price for our shares.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Dual Class Stock

As described above in the subsection titled "—Class A and Class B Common Stock—Voting Rights," our amended and restated certificate of incorporation will continue to provide for a dual class common stock structure, which will provide our Founders and current investors with significant influence over all matters requiring stockholder approval, including the election of directors and significant corporate transactions, such as a merger or other sale of our company or its assets.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock will make it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to effect a change in control of our company. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management of our company.

Special Stockholder Meetings

Our amended and restated bylaws will provide that a special meeting of stockholders may only be called by an officer of our company pursuant to a resolution adopted by a majority of our board of directors then in office or the chairperson of our board of directors.

Stockholder Action by Written Consent

Our amended and restated certificate of incorporation will provide that from and after the date holders of our Class B common stock hold less than 50% of the voting power of our capital stock, no action may be taken by our stockholders by written consent.

Requirements for Advance Notification of Stockholder Proposals and Nominations

Our amended and restated bylaws will establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of the board of directors or a committee of the board of directors.

Classified Board; Election and Removal of Directors; Filling Vacancies

Effective upon the completion of this offering, our board of directors will be divided into three classes, divided as nearly as equal in number as possible. The directors in each class will serve for a three-year term, one class being elected each year by our stockholders, with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the voting power of the then outstanding capital stock will be able to elect all of our directors. Our amended and certificate of incorporation will provide for the removal of any of our directors only for cause and require a stockholder vote by the holders of a majority of the voting power of the then outstanding capital stock. For more information on the classified board, see the section titled "Management—Classified Board of Directors." Furthermore, our board of directors has the exclusive right to set the size of the board of directors, and any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of the board, may only be filled by a resolution of the board of directors unless the board of directors determines that such vacancies will be filled by the stockholders. This system of electing and removing directors and filling vacancies may discourage a third party from making a tender offer or otherwise attempting to obtain control of us because it generally makes it more difficult for stockholders to replace a majority of the directors.

Forum Selection

Our amended and restated certificate of incorporation and amended and restated bylaws will provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the exclusive forum for the following types of actions or proceedings under Delaware statutory or common law: any derivative action or proceeding brought on our behalf; any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or stockholders to us or to our stockholders; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws (as either may be amended from time to time); or any action asserting a claim against us that is governed by the internal affairs doctrine. As a result, any action brought by any of our stockholders with regard to any of these matters will need to be filed in the Court of Chancery of the State of Delaware and cannot be filed in any other jurisdiction; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation and amended and restated bylaws will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees, or agents and arising under the Securities Act. Nothing in our amended and restated certificate of incorporation and amended and restated bylaws preclude stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

If any action the subject matter of which is within the scope described above is filed in a court other than a court located within the State of Delaware (a Foreign Action), in the name of any stockholder, such stockholder shall be deemed to have consented to the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the applicable provisions of our amended and restated certificate of incorporation and amended and restated bylaws and having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder. Although our amended and restated certificate of incorporation and amended and restated bylaws will contain the choice of forum provision described above, it is possible that a court could find that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees, or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder.

Amendment of Charter Provisions

Any amendment of the above provisions in our amended and restated certificate of incorporation would require approval by holders of at least 66 2/3% of the voting power of all of the then outstanding capital stock entitled to vote generally in the election of directors, voting together as a single class. In addition, the affirmative vote of holders of at least 80% of the shares of Class B common stock outstanding at the time of such vote, voting as a separate series, is required to amend or repeal, or adopt any provision of our amended and restated certificate of incorporation relating to the rights and preferences of our common stock.

Limitation on Liability and Indemnification

For a discussion of limitation on liability and indemnification, see the section titled "Management—Limitation on Liability and Indemnification Matters."

Transfer Agent and Registrar

Upon the completion of this offering, the transfer agent and registrar for our Class A and Class B common stock will be American Stock Transfer & Trust Company, LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, New York 11219.

Listing

We have applied to list our Class A common stock on the Nasdaq Global Select Market under the symbol "DUOL."

Shares Eligible for Future Sale

Prior to this offering, there has been no public market for our Class A common stock, and a liquid trading market for our Class A common stock may not develop or be sustained after this offering. Sales of substantial amounts of our Class A common stock in the public market after this offering, or the perception that such sales could occur, could adversely affect the trading price of our Class A common stock and may make it more difficult for you to sell your Class A common stock at a time and price that you deem appropriate.

Upon the completion of this offering, based on the number of shares of our common stock outstanding as of March 31, 2021, we will have a total of shares of our Class A common stock and shares of our Class B common stock outstanding, assuming the occurrence of the Transactions as if such Transactions had occurred as of March 31, 2021. Of these shares, all of the Class A common stock sold in this offering by us, plus any shares sold by us upon exercise, if any, of the underwriters' option to purchase shares of Class A common stock, will be freely tradable in the public market without restriction or further registration under the Securities Act, unless these shares are purchased by one of our "affiliates," as that term is defined in Rule 144.

The remaining shares of Class A and Class B common stock will be, and shares of Class A and Class B common stock underlying outstanding RSUs, or subject to stock options will be on issuance, deemed "restricted securities," as defined in Rule 144. Restricted securities may be sold in the public market only if they are registered or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act (Rule 701), which rules are summarized below.

Lock-Up Agreements

We and our officers and directors and the holders of substantially all of our shares of capital stock, including the selling stockholders, have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their Class A common stock or securities convertible into or exchangeable for shares of Class A common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus (the "lock-up period"), except with the prior written consent of Goldman Sachs & Co. LLC.

Notwithstanding the foregoing, certain shares may automatically be released pursuant to the following conditions:

•If the holder is a current employee, contractor or consultant of the company (excluding any of our officers or directors), then up to 15% of such holder's shares of Class A common stock and securities convertible into or exchangeable for shares of Class A common stock held as of the date of this prospectus (including any vested and exercisable stock options as of such date (Vested Securities) but excluding any unvested convertible securities, stock options, restricted stock units or other equity awards issued by us (Unvested Securities)) may be sold in the public market for a 7-consecutive trading day period beginning at the commencement of trading on the first day on which shares of our Class A common stock trade on Nasdaq;

•If the holder is a current or former employee, contractor or consultant of the company (excluding any of our officers or directors), the lock-up period shall terminate immediately prior to the commencement of trading on the third trading day after we publish our second quarterly financial results following this offering (the Second Quarterly Earnings Date);

•If the holder is an officer or director of the company, 30% of such holder's shares of Class A common stock and securities convertible into or exchangeable for shares of Class A common stock (including Vested Securities but excluding Unvested Securities) shall be released from the lock-up period immediately prior to the commencement of trading on the third trading day (any such date, the Price-Based Early Release Date) immediately following the date the following conditions are met (such date, the Measurement Date): (1) the close of trading on the Second Quarterly Earnings Date and (2) the last reported closing price of our Class A common stock is greater than the final offering price per share set forth on the cover page of this prospectus for any 10 trading days (including the Measurement Date) out of any 15-consecutive trading day period (the Measurement Period), provided that the holder will not be entitled to any incremental release of securities pursuant to the conditions described below;

•If the holder elects to sell shares in this offering and does so sell at least 10% but no less than 20% of the aggregate number of their shares of Class A common stock and securities convertible into or exchangeable for shares of Class A common stock (including Vested Securities but excluding Unvested Securities) held as of the date set forth on the cover page of this prospectus, the lock-up period shall terminate as to 20% of such holder's shares (measured as of the date of this prospectus and including Vested Securities but excluding Unvested Securities); and •If the holder elects to sell shares in this offering and does so sell at least 20% of number of the aggregate number of their shares of Class A common stock and securities convertible into or exchangeable for shares of Class A common stock (including Vested Securities but excluding Unvested Securities) held as of the date set forth on the cover page of this prospectus, the lock-up period shall terminate as to 30% of such holder's shares (measured as of the date of this prospectus and including Vested Securities but excluding Unvested Securities).

For the avoidance of doubt, the Measurement Period may begin prior to the Second Quarterly Earnings Date. In addition, we may, in our discretion, extend the date of the Price-Based Early Release Date as reasonably needed for administrative processing or to the extent such release date would occur during one of our blackout periods, in which case we will publicly announce the date of the Price-Based Early Release Date

following the close of trading on the day that is at least two trading days prior to such date.

The restrictions on our officers, directors, and other holders, including the selling stockholders, set forth above are subject to certain exceptions, including with respect to: (i) transfers as a bona fide gift or gifts or charitable contribution, or for bona fide estate planning purposes; (ii) transfers to any immediate family member, to any trust for the direct or indirect benefit of the holder or the immediate family thereof, or to a trustor, trustee or beneficiary of the trust or to the estate of a beneficiary of such trust; (iii) transfers upon death or by will, testamentary document or intestate succession; (iv) transfers of securities acquired in this offering or in open market transactions after the closing date of this offering; (v) transfers to another corporation, partnership, limited liability company, or other business entity that is an affiliate, or to any investment fund or other entity controlled or managed by the holder or affiliates of the holder, or as part of a distribution by the holder to its stockholders, controlled by, managing or managed by or under common control with the holder or an affiliate, or as part of a distribution, transfer, or disposition to partners, members, stockholders or other equity holders or to the estate thereof; (vi) transfers to us in connection with the vesting or settlement of restricted stock units or the "net" or "cashless" exercise of options, warrants or other rights to purchase shares of our Class A common stock pursuant to equity awards granted under an equity incentive plan, stock purchase plan or other equity award plan, provided that any shares of Class A common stock received by the holder upon such vesting, settlement or exercise shall otherwise remain subject to the lock-up period; (vii) transfers to us in connection with the repurchase of shares of our Class A common stock issued pursuant to equity awards granted under an equity incentive plan, stock purchase plan or other equity award plan provided that such repurchase is in connection with the termination of the holder's relationship with us; (viii) transfers pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of shares of Class A common stock involving a change of control that is approved by our board of directors or the majority of voting power of our outstanding capital stock, provided that, in the event that such tender offer, merger, consolidation or other similar transaction is not completed, the holder's shares shall remain subject to the lock-up period; (ix) transfers in connection with the conversion or reclassification of our outstanding preferred stock or other capital stock, provided that any such shares of Class A Common Stock or securities convertible into or exchangeable for shares of Class A common stock received upon such conversion or reclassification shall remain subject to the lock-up period; (x) transfers by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce settlement or other related court order and (xi) transfers to the underwriters pursuant to the terms of the underwriting agreement. Notwithstanding anything to the contrary above, in the case of clauses (i) through (iii) and (v) above, any such transfer shall not involve a disposition for value and the transferee shall agree to be subject to the lock-up period; in the case of (i) through (v) above, no filing under the Exchange Act or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Class A common stock shall be required or voluntarily made during the lock-up period; in the case of any transfers pursuant to clauses (vi), (vii), and (x) above, no filing under the Exchange Act or other public filing, report or announcement reporting a reduction in beneficial ownership of shares of Class A common stock shall be voluntarily made during the lock-up period and any filing that is required under the Exchange Act to be made during the lock-up period shall include a statement in such report to the effect that such transfer relates to the circumstances described in such clauses.

Rule 144

Under Rule 144, as currently in effect, once we have been subject to the public company reporting requirements of the Exchange Act for at least 90 days, and we are current in our Exchange Act reporting at the time of sale, a person (or persons whose shares are required to be aggregated) who is not deemed to have been one of our "affiliates" for purposes of Rule 144 at any time during the 90 days preceding a sale and who has beneficially owned restricted securities within the meaning of Rule 144 for at least six months, including the holding period of any prior owner other than one of our "affiliates," is entitled to sell those shares in the public market without complying with the manner of sale, volume limitations, or notice provisions of Rule 144, but subject to compliance with the public information requirements of Rule 144. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than one of our "affiliates," then such person is entitled to sell such shares in the public market without complying with any of the requirements of Rule 144.

In general, under Rule 144, as currently in effect, once we have been subject to the public company reporting requirements of the Exchange Act for at least 90 days, our "affiliates," as defined in Rule 144, who have beneficially owned the shares proposed to be sold for at least six months, are entitled to sell in the public market, within any three-month period, a number of those shares that does not exceed the greater of:

•1% of the number of shares of our Class A common stock then outstanding; or •the average weekly trading volume of our Class A common stock on the Nasdaq Global Select Market during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Such sales under Rule 144 by our "affiliates" or persons selling shares on behalf of our "affiliates" are also subject to certain manner of sale provisions, notice requirements, and requirements related to the availability of current public information about us.

Rule 701

In general, under Rule 701 as currently in effect, any of our employees, directors, officers, consultants, or advisors who acquired common stock from us in connection with a written compensatory stock or option plan or other written agreement in compliance with Rule 701 before the effective date of the registration statement of which this prospectus is a part and who are not our "affiliates" as defined in Rule 144 during the immediately preceding 90 days, is entitled to rely on Rule 701 to resell such shares beginning 90 days after the date of this prospectus in reliance on Rule 144, but without complying with the manner of sale, notice requirements, requirements related to the availability of current public information, or volume limitation provisions of Rule 144. The SEC has indicated that Rule 701 applies to typical stock options granted by an

issuer before it becomes subject to the reporting requirements of the Exchange Act, and will apply to shares acquired upon exercise of such stock options, including exercises after the date of this prospectus. Persons who are our "affiliates" may resell those shares beginning 90 days after the date of this prospectus without compliance with minimum holding period requirements under Rule 144.

Registration Rights

Pursuant to our amended and restated investors' rights agreement, the holders of up to 19,074,276 shares of our Class B common stock or their respective transferees will be entitled to certain rights with respect to the registration of the offer and sale of those shares under the Securities Act. See the section titled "Description of Capital Stock—Registration Rights" for a description of these registration rights. If the offer and sale of these shares is registered, the shares will be freely tradable without restriction under the Securities Act, and a large number of shares may be sold into the public market.

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register all of the shares of our Class A and Class B common stock issuable or reserved for issuance under our 2011 Plan, 2021 Plan, and ESPP. Shares covered by such registration statement will be eligible for sale in the public market, subject to the Rule 144 limitations and vesting restrictions.

Material U

Material US Federal Income Tax Consequences To Non-US Holders

The following discussion is a summary of the material US federal income tax consequences to Non-US Holders (as defined below) of the purchase, ownership, and disposition of our Class A common stock issued pursuant to this offering, but does not purport to be a complete analysis of all potential tax effects. The effects of other US federal tax laws, such as estate and gift tax laws, and any applicable state, local, or non-US tax laws are not discussed. This discussion is based on the US Internal Revenue Code of 1986, as amended (the Code), Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the US Internal Revenue Service (the IRS), in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations. Any such change or differing interpretation may be applied retroactively in a manner that could adversely affect a Non-US Holder. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership, and disposition of our Class A common stock.

This discussion is limited to Non-US Holders that hold our Class A common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all US federal income tax consequences relevant to a Non-US Holder's particular circumstances, including the impact of the Medicare contribution tax on net investment income and the alternative minimum tax. In addition, it does not address consequences relevant to Non-US Holders subject to special rules, including, without limitation:

•US expatriates and former citizens or long-term residents of the United States;

•persons holding our Class A common stock as part of a hedge, straddle, or other risk reduction strategy or as part of a conversion transaction or other integrated investment;

•banks, insurance companies, and other financial institutions;

•brokers, dealers, or traders in securities;

•"controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid US federal income tax;

•partnerships or other entities or arrangements treated as partnerships for US federal income tax purposes (and investors therein);

•tax-exempt organizations or governmental organizations;

•persons deemed to sell our Class A common stock under the constructive sale provisions of the Code;

•persons who hold or receive our Class A common stock pursuant to the exercise of any employee stock option or otherwise as compensation;

•tax-qualified retirement plans; and •"qualified foreign pension funds" as defined in Section 897(l)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

If an entity treated as a partnership for US federal income tax purposes holds our Class A common stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership, and certain determinations made at the partner level. Accordingly, partnerships holding our Class A common stock and the partners in such partnerships should consult their tax advisors regarding the US federal income tax consequences to them.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE US FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP, AND DISPOSITION OF OUR CLASS A COMMON STOCK

ARISING UNDER THE US FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, OR NON-US TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-US Holder

For purposes of this discussion, a "Non-US Holder" is any beneficial owner of our Class A common stock that is neither a "US person" nor an entity treated as a partnership for US federal income tax purposes. A US person is any person that, for US federal income tax purposes, is or is treated as any of the following:

•an individual who is a citizen or resident of the United States;

•a corporation created or organized under the laws of the United States, any state thereof, or the District of Columbia;

•an estate, the income of which is subject to US federal income tax regardless of its source; or •a trust that (1) is subject to the primary supervision of a US court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code), or (2) has a valid election in effect to be treated as a United States person for US federal income tax purposes.

Distributions

As described in the section entitled "Dividend Policy," we do not anticipate declaring or paying dividends to holders of our Class A common stock in the foreseeable future. However, if we do make distributions of cash or property on our Class A common stock, such distributions will constitute dividends for US federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under US federal income tax principles. Amounts not treated as dividends for US federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-US Holder's adjusted tax basis in its Class A common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under "—Sale or Other Taxable Disposition."

Subject to the discussion below on effectively connected income, dividends paid to a Non-US Holder will be subject to US federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-US Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-US Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-US Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-US Holder are effectively connected with the Non-US Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-US Holder maintains a permanent establishment in the United States to which such dividends are attributable), the Non-US Holder will be exempt from the US federal withholding tax described above. To claim the exemption, the Non-US Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-US Holder's conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to US federal income tax on a net income basis at the regular rates. A Non-US Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-US Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

A Non-US Holder will not be subject to US federal income tax on any gain realized upon the sale or other taxable disposition of our Class A common stock unless:

•the gain is effectively connected with the Non-US Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-US Holder maintains a permanent establishment in the United States to which such gain is attributable);

•the Non-US Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or •our Class A common stock constitutes a US real property interest (USRPI) by reason of our status as a US real property holding corporation (USRPHC) for US federal income tax purposes.

Gain described in the first bullet point above generally will be subject to US federal income tax on a net income basis at the regular rates. A Non-US Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A Non-US Holder described in the second bullet point above will be subject to US federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on gain realized upon the sale or other taxable disposition of our Class A common stock, which may be offset by US source capital losses of the Non-US Holder (even though the individual is not considered a resident of the United States), provided the Non-US Holder has timely filed US federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-US real property interests and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition of our Class A common stock by a Non-US Holder will not be subject to US federal income tax if our Class A common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market and such Non-US Holder owned, actually and constructively, 5% or less of our Class A common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-US Holder's holding period.

Non-US Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our Class A common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a United States person and the holder either certifies its non-US status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E, or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions on our Class A common stock paid to the Non-US Holder, regardless of whether such distributions constitute dividends or whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of our Class A common stock within the United States or conducted through certain US-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a United States person or the holder otherwise establishes an exemption. Proceeds of a disposition of our Class A common stock conducted through a non-US office of a non-US broker generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-US Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-US Holder's US federal income tax liability, provided the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as the Foreign Account Tax Compliance Act (FATCA)) on certain types of payments made to non-US financial institutions and certain other non-US entities. Specifically, a 30% withholding tax may be imposed on dividends on, or (subject to the proposed Treasury Regulations discussed below) gross proceeds from the sale or other disposition of, our Class A common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (1) the foreign financial institution undertakes certain diligence and reporting obligations, (2) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner, or (3) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (1) above, it must enter into an agreement with the US Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, withholding under FATCA generally applies to payments of dividends on our Class A common stock. While withholding under FATCA would have applied also to payments of gross proceeds from the sale or other disposition of stock on or after January 1, 2019, proposed Treasury Regulations eliminate FATCA withholding on payments of gross proceeds entirely. Taxpayers generally may rely on these proposed Treasury Regulations until final Treasury Regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our Class A common stock.

Underwriting

We, the selling stockholders and the underwriters named below have entered into an underwriting agreement with respect to the shares of our Class A common stock being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares of our Class A common stock indicated in the following table. Goldman Sachs & Co. LLC is acting as representative of the underwriters.

Underwriters	Number of Shares
Goldman Sachs & Co. LLC	
Allen & Company LLC	
BofA Securities, Inc.	

Barclays Capital Inc.
Evercore Group L.L.C.
William Blair & Company, L.L.C.
KeyBanc Capital Markets Inc.
JMP Securities LLC
Piper Sandler & Co.
Raymond James & Associates, Inc.
Total

The underwriters are committed to take and pay for all of the shares of our Class A common stock being offered, if any are taken, other than the shares covered by the option described below unless and until this option is exercised.

The underwriters have an option to buy up to an additional shares of our Class A common stock from us to cover sales by the underwriters of a greater number of shares than the total number set forth in the table above. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following tables show the per share and total underwriting discounts and commissions to be paid to the underwriters by the company and the selling stockholders. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

Paid by Us

	No Exercise	Full Exercise
Per Share		$$
Total		$$

Paid by the Selling Stockholders

	No Exercise	Full Exercise
Per Share		$$
Total		$$

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the initial public offering price. After the initial offering of the shares, the representative may change the offering price and the other selling terms. The offering of the shares by the underwriters is subject to receipt and acceptance and subject to the underwriters' right to reject any order in whole or in part.

We currently anticipate that up to % of the shares of Class A common stock offered hereby will, at our request, be offered to retail investors through Robinhood Financial, LLC, as a selling group member, via its online brokerage platform. Robinhood Financial is not acting as an underwriter in this offering and is not affiliated with the company. Purchases through the Robinhood platform will be subject to the terms, conditions and requirements set by Robinhood. Any purchase of our Class A common stock in this offering through the Robinhood platform will be at the same initial public offering price, and at the same time, as any other purchases in this offering, including purchases by institutions and other large investors. The Robinhood platform and information on the Robinhood application do not form a part of this prospectus.

We and our officers and directors and the holders of substantially all of our shares of capital stock, including the selling stockholders, have agreed with the underwriters, subject to certain exceptions, not to dispose of or hedge any of their Class A common stock or securities convertible into or exchangeable for shares of Class A common stock during the period from the date of this prospectus continuing through the date 180 days after the date of this prospectus, except with the prior written consent of Goldman Sachs & Co. LLC. See "Shares Eligible for Future Sale" for a discussion of certain early release and other exceptions and transfer restrictions.

Prior to the offering, there has been no public market for shares of our Class A common stock. The initial public offering price has been negotiated among the company and the representative. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be the company's historical performance, estimates of the business potential and earnings prospects of the company, an assessment of the company's management and the consideration of the above factors in relation to market valuation of companies in related businesses.

We have applied to list the shares of our Class A common stock on the Nasdaq Global Select Market under the symbol "DUOL."

In connection with the offering, the underwriters may purchase and sell shares of our Class A common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering, and a short position represents the amount of such sales that have not been covered by subsequent purchases. A "covered short position" is a short position that is not greater than the amount of additional shares for which the underwriters' option described above may be exercised. The underwriters may cover any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to cover the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase additional shares pursuant to the option described above. "Naked" short sales are any short

sales that create a short position greater than the amount of additional shares for which the option described above may be exercised. The underwriters must cover any such naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the Class A common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of Class A common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representative has repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or retarding a decline in the market price of shares of our Class A common stock, and together with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of the shares. As a result, the price of the shares may be higher than the price that otherwise might exist in the open market. The underwriters are not required to engage in these activities and may end any of these activities at any time. These transactions may be effected on the Nasdaq Global Select Market, in the over-the-counter market or otherwise.

We estimate that our share of the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately $.

We and the selling stockholders have agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act of 1933.

The underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. Certain of the underwriters and their respective affiliates have provided, and may in the future provide, a variety of these services to the issuer and to persons and entities with relationships with the issuer, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to assets, securities and/or instruments of the issuer (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with the issuer. The underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

European Economic Area

In relation to each EEA Member State (each a Relevant Member State), no shares of our Class A common stock have been offered or will be offered pursuant to the offering to the public in that Relevant Member State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Regulation, except that the shares may be offered to the public in that Relevant Member State at any time:

a)to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;

b)to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation) subject to obtaining the prior consent of the representative for any such offer; or c)in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of the shares shall require the company and/or selling stockholders or any underwriters to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an ‘offer to the public’ in relation to the shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Each person in a Relevant Member State who receives any communication in respect of, or who acquires any shares under, the offering contemplated hereby will be deemed to have represented, warranted and agreed to and with each of the underwriters and their affiliates and the company that:

a)it is a qualified investor within the meaning of the Prospectus Regulation; and b)in the case of any shares acquired by it as a financial intermediary, as that term is used in Article 5 of the Prospectus Regulation, (i) the shares acquired by it in the offering have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in any Relevant Member State other than qualified investors, as that term is defined in the Prospectus Regulation, or have been acquired in other circumstances falling within the

points (a) to (d) of Article 1(4) of the Prospectus Regulation and the prior consent of the representative has been given to the offer or resale; or (ii) where the shares have been acquired by it on behalf of persons in any Relevant Member State other than qualified investors, the offer of those shares to it is not treated under the Prospectus Regulation as having been made to such persons.

The company, the underwriters and their affiliates, and others will rely upon the truth and accuracy of the foregoing representation, acknowledgement and agreement. Notwithstanding the above, a person who is not a qualified investor and who has notified the representative of such fact in writing may, with the prior consent of the representative, be permitted to acquire shares in the offering.

United Kingdom

This prospectus and any other material in relation to the shares described herein is only being distributed to, and is only directed at, and any investment or investment activity to which this prospectus relates is available only to, and will be engaged in only with persons who are (i) persons having professional experience in matters relating to investments who fall within the definition of investment professionals in Article 19(5) of the FPO; or (ii) high net worth entities falling within Article 49(2)(a) to (d) of the FPO; (iii) outside the UK; or (iv) persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) in connection with the issue or sale of any shares may otherwise lawfully be communicated or caused to be communicated, (all such persons together being referred to as Relevant Persons). The shares are only available in the UK to, and any invitation, offer or agreement to purchase or otherwise acquire the shares will be engaged in only with, the Relevant Persons. This prospectus and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other person in the UK. Any person in the UK that is not a Relevant Person should not act or rely on this prospectus or any of its contents.

No shares have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the Shares which has been approved by the Financial Conduct Authority, except that the shares may be offered to the public in the United Kingdom at any time:

a)to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

b)to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the representative for any such offer; or c)in any other circumstances falling within Section 86 of the FSMA.

provided that no such offer of the shares shall require the company and/or any underwriters or any of their affiliates to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an "offer to the public" in relation to the shares in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

Each person in the UK who acquires any shares in the offering or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the company, the underwriters and their affiliates that it meets the criteria outlined in this section.

Canada

The shares may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions, and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption form, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this document (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser’s province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser’s province or territory of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Hong Kong

The shares may not be offered or sold in Hong Kong by means of any document other than (i) in circumstances which do not constitute an offer to the public within the meaning of the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32 of the Laws of Hong Kong) (Companies (Winding Up and Miscellaneous Provisions) Ordinance) or which do not constitute an invitation to the public within the meaning of the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong) (Securities and Futures Ordinance), or (ii) to "professional investors" as defined in the Securities and Futures Ordinance and any rules made thereunder, or (iii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance, and no advertisement, invitation or document relating to the shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong

(except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" in Hong Kong as defined in the Securities and Futures Ordinance and any rules made thereunder.

Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this prospectus and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares may not be circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor (as defined under Section 4A of the Securities and Futures Act, Chapter 289 of Singapore (the SFA)) under Section 274 of the SFA, (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA, in each case subject to conditions set forth in the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor, the securities (as defined in Section 239(1) of the SFA) of that corporation shall not be transferable for six months after that corporation has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer in that corporation's securities pursuant to Section 275(1A) of the SFA, (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32 of the Securities and Futures (Offers of Investments) (Shares and Debentures) Regulations 2005 of Singapore (Regulation 32) Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person which is a trust (where the trustee is not an accredited investor (as defined in Section 4A of the SFA)) whose sole purpose is to hold investments and each beneficiary of the trust is an accredited investor, the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable for six months after that trust has acquired the shares under Section 275 of the SFA except: (1) to an institutional investor under Section 274 of the SFA or to a relevant person (as defined in Section 275(2) of the SFA), (2) where such transfer arises from an offer that is made on terms that such rights or interest are acquired at a consideration of not less than S$200,000 (or its equivalent in a foreign currency) for each transaction (whether such amount is to be paid for in cash or by exchange of securities or other assets), (3) where no consideration is or will be given for the transfer, (4) where the transfer is by operation of law, (5) as specified in Section 276(7) of the SFA, or (6) as specified in Regulation 32.

Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended) (the FIEA). The shares may not be offered or sold, directly or indirectly, in Japan or to or for the benefit of any resident of Japan (including any person resident in Japan or any corporation or other entity organized under the laws of Japan) or to others for reoffering or resale, directly or indirectly, in Japan or to or for the benefit of any resident of Japan, except pursuant to an exemption from the registration requirements of the FIEA and otherwise in compliance with any relevant laws and regulations of Japan.

Legal Matters

The validity of the shares of Class A common stock offered hereby will be passed upon for us by Latham & Watkins LLP, Menlo Park, California. Skadden, Arps, Slate, Meagher & Flom LLP, New York, New York, has acted as counsel for the underwriters in connection with certain legal matters related to this offering.

Experts

The financial statements as of December 31, 2020 and 2019, and for each of the two years in the period ended December 31, 2020, included in this registration statement, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing herein. Such financial statements have been so included in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

Where You Can Find Additional Information

We have filed with the SEC a registration statement on Form S-1, including exhibits and schedules, under the Securities Act, with respect to the shares of Class A common stock being offered by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information in the registration statement and its exhibits. For further information with respect to us and our Class A common

stock, we refer you to the registration statement and its exhibits. Statements contained in this prospectus as to the contents of any contract or any other document referred to are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

You may read our SEC filings, including this registration statement, over the Internet at the SEC's website at www.sec.gov. Upon the completion of this offering, we will be subject to the information reporting requirements of the Exchange Act and we will file reports, proxy statements, and other information with the SEC. These reports, proxy statements, and other information will be available for review at the SEC's website referred to above. We also maintain a website at www.Duolingo.com, at which, following the completion of this offering, you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on, or that can be accessed through, our website does not constitute part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only. Investors should not rely on any such information in deciding whether to purchase our Class A common stock.

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Duolingo, Inc. and Subsidiaries

Index to Consolidated Financial Statements

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Report of Independent Registered Public Accounting Firm

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Duolingo, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Duolingo, Inc. and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit, and cash flows, for the years ended December 31, 2020 and 2019, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for the years ended December 31, 2020 and 2019, in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Notes 2 and 6 to the financial statements, the Company has changed its method of accounting for leases due to the adoption of Financial Accounting Standards Board Accounting Standards Update No. 2016-02, Leases (Topic 842), using the modified retrospective approach. Our opinion is not modified with respect to this matter.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Deloitte & Touche LLP New York, New York April 30, 2021 We have served as the Company's auditor since 2018.

Consolidated Balance Sheets

Duolingo, Inc. and Subsidiaries

Consolidated Balance Sheets

(Amounts in thousands, except par value amounts)

	December 31,	
	2019	2020
ASSETS		
Current assets		
Cash and cash equivalents	$59,843	$120,490
Accounts receivable	10,005	20,450
Deferred cost of revenues	6,932	13,585
Prepaid expenses and other current assets	2,143	3,855
Total current assets	78,923	158,380
Property and equipment, net	4,676	6,428
Capitalized software, net	1,791	2,296
Operating lease right-of-use assets	9,145	8,073
Other assets	524	562
Total assets	$95,059	$175,739
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT		
Current liabilities		
Accounts payable	$3,811	$2,196
Deferred revenues	26,307	54,792
Income tax payable	—	68
Accrued expenses and other current liabilities	1,989	8,634
Total current liabilities	32,107	65,690
Long term obligation under operating leases	9,242	8,131

Total liabilities	41,349	73,821
Commitments and contingencies (Note 10)		
Convertible preferred stock, $.0001 par value; 18,247 shares issued and outstanding at December 31, 2019 and 19,074 shares issued and outstanding at December 31, 2020	137,686	182,609
Stockholders' deficit		
Common stock, $.0001 par value; 42,800 authorized shares; 12,406 issued and outstanding at December 31, 2019 and 12,794 issued and outstanding at December 31, 2020.	1	1
Additional paid-in capital	11,026	30,087
Accumulated deficit	(95,003)	(110,779)
Total stockholders' deficit	(83,976)	(80,691)
Total liabilities, convertible preferred stock and stockholders' deficit	$95,059	$175,739

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Operations and Comprehensive Loss

Duolingo, Inc. and Subsidiaries

Consolidated Statements of Operations and Comprehensive Loss

(Amounts in thousands, except per share amounts)

	Year Ended December 31,	
	2019	2020
Revenues	$70,760	$161,696
Cost of revenues	20,737	45,987
Gross profit	50,023	115,709
Operating expenses:		
Research and development	31,560	53,024
Sales and marketing	14,989	34,983
General and administrative	16,371	43,713
Impairment of capitalized software	1,228	—
Total operating expenses	64,148	131,720
Loss from operations	(14,125)	(16,011)
Other income	591	388
Other expense	(20)	(85)
Other income, net	571	303
Loss before provision for income taxes	(13,554)	(15,708)
Provision for income taxes	—	68
Net loss and comprehensive loss	$(13,554)	$(15,776)
Basic and diluted net loss per share attributable to common stockholders	$(1.10)	$(1.24)

See accompanying notes to the consolidated financial statements.

Consolidated Statements of

Duolingo, Inc. and Subsidiaries

Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

(Amounts in thousands)

	Convertible Preferred Stock	Common Stock

	Shares	Amount	Shares	Amount	Additional Paid-InCapital	Accumulated Deficit	Total
BALANCE—January 1, 2019	17,489	$107,838	12,110	$1	$6,011	$(80,918)	$(74,906)
Cumulative effect of adoption of ASC 842	—	—	—	—	—	(363)	(363)
Issuance of Series F convertible preferred stock, net $153 of fees	758	29,848	—	—	—	—	—
Stock-based compensation	—	—	—	—	3,725	—	3,725
Stock options exercised	—	—	317	—	1,290	—	1,290
Common stock repurchased and retired	—	—	(21)	—	—	(168)	(168)
Net loss and comprehensive loss	—	—	—	—	—	(13,554)	(13,554)
BALANCE—December 31, 2019	18,247	137,686	12,406	1	11,026	(95,003)	(83,976)
Issuance of Series G and H convertible preferred stock, net $76 of fees	827	44,923	—	—	—	—	—
Stock-based compensation	—	—	—	—	17,031		17,031
Stock options exercised	—	—	388	—	2,030		2,030
Net loss and comprehensive loss	—	—	—	—	—	(15,776)	(15,776)
BALANCE—December 31, 2020	19,074	$182,609	12,794	$1	$30,087	$(110,779)	$(80,691)

See accompanying notes to the consolidated financial statements.

Consolidated Statement

Duolingo, Inc. and Subsidiaries

Consolidated Statements of Cash Flows

(Amounts in thousands)

	Year Ended December 31,	
	2019	2020
Cash flows from operating activities:		
Net loss	$(13,554)	$(15,776)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	1,251	2,256
Impairment of capitalized software	1,228	—
Stock-based compensation	3,725	17,031
Changes in:		
Deferred revenues	17,273	28,485
Accounts receivable	(5,301)	(10,445)
Deferred cost of revenues	(4,527)	(6,653)
Prepaid expenses and other current assets	(995)	(1,712)
Accounts payable	2,427	(1,615)
Accrued expenses and other current liabilities	1,442	6,213
Noncurrent assets and liabilities	(817)	(76)
Net cash provided by operating activities	2,152	17,708
Cash flows from investing activities:		
Maturities of investments	7,677	—
Capitalized software	(1,476)	(638)
Purchase of property and equipment	(3,770)	(3,376)
Net cash provided by (used for) investing activities	2,431	(4,014)
Cash flows from financing activities:		
Net proceeds from issuance of convertible preferred stock	29,848	44,923
Proceeds from exercise of stock options	1,290	2,030
Repurchase of common stock	(168)	—
Net cash provided by financing activities	30,970	46,953
Net increase in cash and cash equivalents	35,553	60,647

Cash and cash equivalents - Beginning of year	24,290	59,843
Cash and cash equivalents - End of year	$59,843	$120,490
Supplemental disclosure of cash flow information:		
Cash paid for interest	$—	$—
Cash paid for income taxes	$—	$—
Supplemental disclosure of noncash investing activities:		
Capitalized software included in accrued expenses	$—	$500

See accompanying notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements

Duolingo, Inc. and Subsidiaries

Notes to the Consolidated Financial Statements

1.Description of the Business and Basis of Presentation

Duolingo, Inc. (the “Company”) was formed on August 18, 2011 and the Duolingo app was launched to the general public on June 19, 2012. The Company’s headquarters are located in Pittsburgh, Pennsylvania.

Duolingo is a US-based language-learning website and mobile app, as well as a digital language proficiency assessment exam. The company has a freemium business model: the app and the website are accessible free of charge, although Duolingo also offers a premium service, Duolingo Plus, for a subscription fee. As of the date of this filing, Duolingo offers courses in 40 different languages, including Spanish, English, French, German, Italian, Portuguese, Japanese and Chinese. We have locations in the United States and China.

Principles of Consolidation—The Consolidated Financial Statements include the accounts of the Company and subsidiaries over which the Company has control. All intercompany transactions and balances have been eliminated.

Basis of Presentation—The accompanying Consolidated Financial Statements have been prepared in accordance with generally accepted accounting principles in the United States (“GAAP”) from the Company’s accounting records and reflect the consolidated financial position and results of operations for the fiscal years ended December 31, 2019 and 2020. Unless otherwise specified, all dollar amounts in this section are presented in thousands.

2.Summary of Significant Accounting Policies

Under the JOBS Act, emerging growth companies also can delay adopting new or revised accounting standards until such time as those standards would otherwise apply to private companies. While we have not historically delayed the adoption of new or revised accounting standards until such time as those standards would apply to private companies, we have elected to take advantage of this extended transition period and, as a result, our operating results and financial statements in the future may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

Accounting Principles—The financial statements and accompanying notes are prepared in accordance with generally accepted accounting principles in the United States of America (GAAP).

Use of Estimates—The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Significant estimates and assumptions reflected in the consolidated financial statements include, but are not limited to, useful lives of property and equipment, valuation of deferred tax assets and liabilities, stock-based compensation, common stock valuation, operating lease right-of-use assets and liabilities, capitalization of internally developed software and associated useful lives and contingent liabilities. Actual results may differ materially from such estimates. Management believes that the estimates, and judgments upon which they rely, are reasonable based upon information available to them at the time that these estimates and judgments are made. To the extent that there are material differences between these estimates and actual results, the Company’s consolidated financial statements will be affected.

The novel coronavirus, or COVID-19, pandemic has created, and may continue to create, significant uncertainty in macroeconomic conditions. The full extent to which the COVID-19 pandemic will directly or indirectly impact the global economy, the lasting social effects, and impact on the Company’s business, results of operations, and financial condition will depend on future developments that are highly uncertain and cannot be accurately predicted. As of the date of issuance of the financial statements, the Company is not aware of any specific event of circumstance related

to COVID-19 that would require it to update its estimates or judgments or adjust the carrying value of its assets or liabilities. Actual results could differ from those estimates and any such differences may be material to the consolidated financial statements. As events continue to evolve and additional information becomes available, the Company's estimates and assumptions may change materially in future periods.

Revenue Recognition—The Company has three predominant sources of revenue; time-based subscriptions, in-app advertising placement by third parties, and the Duolingo English Test. See Footnote 3 for further discussion.

Deferred Revenue—Revenue is recognized over the life of the subscription, or in the case of Duolingo English Test, revenue is recognized when the test is proctored. The Company classifies deferred revenue as a short-term liability on the consolidated balance sheets as the longest subscription plan is for twelve months, and Duolingo English Test purchases must be taken within 90 days.

Cost of Revenue—Cost of revenue predominantly consists of third-party payment processing fees charged by various distribution channel and hosting fees. To a much lesser extent, includes wages and share-based compensation for certain employees in the capacity of customer support, amortization of revenue generating capitalized software, and depreciation of certain property and equipment.

Deferred Cost of Revenue—Deferred cost of revenue includes third-party payment processing fees amortized over the subscription terms in proportion to the revenue recognized. In situations where fees are charged for subscriptions that exceed one month, costs are deferred and recognized over the life of the subscription and are classified as a current asset. The Company classifies deferred cost of revenue as a short-term asset on the Company's consolidated balance sheets as the longest subscription plan is for twelve months.

Cash and Cash Equivalents—Cash consists primarily of cash on hand and bank deposits. Cash equivalents consist primarily of money market accounts with maturities of three months or less at the date of acquisition and are stated at cost, which approximates fair value. The Company maintains cash deposits with financial institutions that may exceed federally insured limits at times. The following table shows the breakout between cash and money market funds.

	December 31,	
	2019	2020
Cash	$5,010	$20,428
Money market funds	54,833	100,062
Total	$59,843	$120,490

The Money market funds are considered Level 1 financial assets. Level 1 financial assets use inputs that are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Accounts Receivable—The Company adopted ASC 326, Credit Losses, on January 1, 2020. Accounts receivables are reported on the consolidated balance sheets at the outstanding principal amount adjusted for any allowance for credit losses and any charge offs. The Company provides an allowance for credit losses to reduce trade receivables to their estimated net realizable value equal to the amount that is expected to be collected. This allowance is estimated based on historical collection experience, the aging of receivables, specific current and expected future macro-economic and market conditions, and assessments of the current creditworthiness and economic status of customers. Under previous guidance, judgments were made as to the Company's ability to collect outstanding receivables and provided allowances for a portion of receivables when collection became doubtful. The Company considers a receivable delinquent if it is unpaid after the term of the related invoice has expired. Balances that are still outstanding after management has used reasonable collection efforts are written off. The Company reviews its allowance for credit losses on a quarterly basis. As of December 31, 2019 and 2020, the Company has not recorded a reserve given the Company's lack of historical write offs.

Investments—The Company classified its debt securities as available-for-sale and reported them at fair value. Interest income was recorded as earned and included accretion of discounts and amortization of premiums using the effective yield method and was recorded in other income within the statements of operations. During 2019, the Company sold all their investments.

Property and Equipment—Property and equipment is stated at cost, less accumulated depreciation. Depreciation is computed on the straight-line method.

Asset Class	Estimated Useful Life
Furniture, fixtures and equipment	5 to 7 years
Leasehold improvements	4 to 6 years

Leasehold improvements are amortized over the lesser of the life of the lease or the estimated useful life of the leasehold improvements. Costs related to maintenance and repairs that do not extend the assets' useful life are expensed as incurred.

Capitalized software—The Company develops software for internal use and capitalizes the software development costs incurred during the application development stage. Costs incurred prior to and after the application development stage are charged to expense. When the software is ready for its intended use, capitalization ceases and such costs are amortized on a straight-line basis over the estimated life, which is generally three years. Relatively minor upgrades, enhancements and maintenance to the platform are expensed as incurred.

Impairment of Long-Lived Assets—The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If the sum of the estimated undiscounted future cash flows expected to result from the use and eventual disposition of an asset is less than the carrying amount of the asset, an impairment loss is recognized. Measurement of an impairment loss is based on the fair value of the asset. The Company recorded a $1,228 charge, which represents an impairment to write-off the capitalization of an internal-use software project prior to being launched to the user base during the year ended December 31, 2019. No assets were impaired during the year ended December 31, 2020.

Income Taxes—The Company provides for income taxes in accordance with the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the carrying amounts of existing assets and liabilities for financial reporting and for income tax reporting. The deferred tax asset or liability represents the future tax return consequences of those differences, which will either be taxable or deductible when the assets and liabilities are recovered or settled. A valuation allowance is established for any deferred tax asset for which it is determined that it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company utilizes a two-step approach to recognizing and measuring uncertain tax positions accounted for in accordance with the asset and liability method. The first step is to evaluate the tax position for recognition by determining whether evidence indicates that it is more likely than not that a position will be sustained if examined by a taxing authority.

The second step is to measure the tax benefit as the largest amount that is 50% likely of being realized upon settlement with a taxing authority. There were no amounts recorded at December 31, 2019 and 2020 related to uncertain tax positions.

Foreign Currency—The functional currency of the Company and its subsidiaries is the United States dollar. Transactions denominated in currencies other than the functional currency are translated into the functional currency at the exchange rates prevailing at the dates of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated using the exchange rate prevailing at the balance sheet date. Non-monetary assets and liabilities are translated using the historical rate on the date of the transaction. All exchange gains or losses arising from translation of these foreign currency transactions are included in net loss for the year. The Company has not, to the date of these consolidated financial statements, entered into derivative instruments to offset the impact of foreign currency fluctuations.

Other Comprehensive Loss—Comprehensive loss is defined as net income and all other non-owner changes in stockholders' deficit. Other comprehensive loss results from items deferred from recognition into the statements of operations. The Company follows the provisions of ASC 220, Comprehensive Income, for the reporting and display of comprehensive loss and its components. The Company's accumulated other comprehensive loss consists of the unrealized loss on investments. Accumulated other comprehensive loss is separately presented on the Company's balance sheet as part of stockholders' deficit.

Stock-Based Compensation—The Company accounts for equity-based compensation using the fair value method as set forth in the ASC 718, Compensation—Stock Compensation, which requires the measurement and recognition of compensation expense for all share-based payment awards based on estimated fair values. This method requires companies to estimate the fair value of stock-based compensation on the date of grant using an option pricing model. The Company estimates the fair value of each equity-based payment award on the date of grant using the Black-Scholes pricing model.

The Black-Scholes model determines the fair value of equity-based payment awards based on the fair value of the underlying common stock on the date of grant and requires the use of estimates and assumptions, including the fair value of the Company's common stock, exercise price of the stock option, expected volatility, expected life, risk-free interest rate and dividend rate. The Company estimates the expected volatility of its stock options by taking the average historical volatility of a group of comparable publicly traded companies over a period equal to the expected life of the options; it is not practical for the Company to estimate its own volatility due to the lack of a liquid market and historical prices. The expected term of the options is determined in accordance with existing equity agreements as the underlying options are assumed to be exercised upon the passage of time. The risk-free interest rate is the estimated average interest rate based on US Treasury zero-coupon notes with terms consistent with the expected life of the awards. The expected dividend yield is zero as the Company does not anticipate paying any recurring cash dividends in the foreseeable future. The Company accounts for forfeitures as they occur.

Fair Value of Financial Instruments—The Company accounts for certain assets and liabilities at fair value in accordance with the accounting guidance applicable to fair value measurements and disclosures.

The carrying values of cash, cash equivalents, accounts receivable, accounts payable, and accrued expenses are deemed to be reasonable estimates of their fair values because of their short-term nature.

Research and Development Costs—Research and development expenses are incurred as the Company maintains and enhances its software and evaluates and develops other potential applications. Such expenses include compensation of engineering, product design and testing personnel, including share-based compensation, materials, travel and direct costs associated with the design and required testing of our platform and depreciation of certain property and equipment.

Sales and Marketing—Sales and marketing expenses are expensed as incurred and consists primarily of brand advertising, marketing, digital and social media spend, field marketing, travel, trade show sponsorships and events, conferences and other employee related compensation, including share-based compensation for personnel engaged in sales and marketing functions, and amortization of non-revenue generating capitalized

software used to promote Duolingo, and depreciation of certain property and equipment. Advertising costs were approximately $9,642 and $27,352 for the years ended December 31, 2019 and 2020, respectively.

General and Administrative—General and administrative expense primarily consists of employee related compensation (including share-based compensation) for management and administrative functions, including our finance and accounting, legal, and people teams. General and administrative expense also includes certain professional services fees, general corporate and director and officer insurance, facilities costs, and other general overhead costs that support our operations, and depreciation of certain property and equipment.

Concentration of Credit Risk—The Company's concentration of credit risk relates to financial institutions holding the Company's cash and cash equivalents and platforms with significant accounts receivable balances and revenue transactions.

The Company maintains cash deposits with financial institutions that may exceed federally insured limits at times. Management believes that the financial institutions that hold the Company's deposits are financially credit worthy and, accordingly, minimal credit risk exists with respect to those balances.

The majority of our revenue comes through our subscriptions and advertising revenue streams and payments are made to Duolingo through service providers. The top two service providers, Apple and Google, accounted for 52.8% and 29.6% of total Accounts receivable as of December 31, 2019, respectively and the top three, Apple, Google and Stripe, accounted for 47.8%, 28.9% and 13.8% as of December 31, 2020, respectively.

Three service providers, Apple, Google and Facebook, processed 55.2%, 23.5% and 10.0% of total revenue for the year ended December 31, 2019 and two service providers, Apple and Google, processed 51.3% and 26.9% of total revenue for the year ended December 31, 2020.

Contingencies—The Company records accruals for contingencies and legal proceedings expected to be incurred in connection with a loss contingency when it is probable that a liability has been incurred and the amount can be reasonably estimated.

If a loss contingency is not probable, but is reasonably possible, or is probable but cannot be estimated, the nature of the contingent liability, together with an estimate of the range of possible loss, would be disclosed.

Segment—The Company operates as a single operating segment. The chief operating decision maker of the Company is its Chief Executive Officer, who makes resource allocation decisions and assesses performance based on financial information presented on a consolidated basis, accompanied by disaggregated information of our revenue. Accordingly, the Company has determined that it has a single reportable segment and operating segment structure, and operates as one reporting unit.

Recently Adopted Accounting Pronouncements—

In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, Leases (Topic 842) (ASU 2016-02). ASU 2016-02 requires virtually all leases, other than leases that meet the definition of a short-term lease, to be recorded on the balance sheet with a right-of-use (ROU) asset and corresponding lease liability. Leases will be classified as either operating or finance leases based on certain criteria. This classification will determine the timing and presentation of expenses on the income statement, as well as the presentation of related cash flows. The Company adopted this on January 1, 2019 using the modified retrospective approach. As an accounting policy election, the Company elected to exclude short term leases (initial term of 12 months or less) from the balance sheet and to account for non-lease and lease components separately for all asset classes. The Company recognized $5,798 of ROU assets related to operating leases in Operating lease right-of-use assets and $6,380 of corresponding lease liabilities, of which $187 is included in Accrued expenses and other liabilities and $6,193 is included in Long term obligation under operating leases on the consolidated balance sheets. The Company also recorded a Cumulative effect of adoption of new accounting standard to accumulated deficit of $363 .

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (ASU 2016-13), which modifies the measurement of expected credit losses of certain financial instruments. This new guidance will be effective for private companies for fiscal years beginning after December 15, 2021, but early adoption is permitted. The Company adopted this guidance on January 1, 2020 and it did not have an impact on its consolidated financial statements and related disclosures upon adoption.

Recently Issued Pronouncements Not Yet Adopted

In August 2018, the FASB issued ASU No. 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract (ASU 2018-15). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. This new guidance will be effective for fiscal years beginning after December 15, 2020. The adoption of this ASU will not have a significant impact on the Company's consolidated financial statements and related disclosures upon adoption.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which simplifies the accounting for income taxes by removing certain exceptions and by clarifying and amending existing guidance in order to improve consistent application of and simplify GAAP for other areas of Topic 740. The guidance will be effective for the Company beginning after December 15, 2021. Early adoption is permitted. The Company is currently evaluating the effect that ASU 2019-12 will have on its consolidated financial statements and related disclosures.

3.Revenue

The Company has three predominant sources of revenue; time-based subscriptions, in-app advertising placement by third parties and the Duolingo English Test. Revenue is recognized upon transfer of control of promised products or services to users in an amount that reflects the consideration the Company expects to receive in exchange for those services. The Company does not enter into contracts with a customer that contain multiple promises that result in multiple performance obligations. Revenue is recorded net of taxes assessed by a government authority that are both imposed on and concurrent with specific revenue transactions between us and our users.

Revenue from time-based subscriptions includes a stand-ready obligation to provide hosting services that are consumed by the customer over the subscription period. Users can purchase Duolingo monthly or they can purchase a six-month or year-long subscription and pay for the subscription at the time of purchase. Therefore, such payments are initially recorded to deferred revenue. The user has the ability to download limited content offline. However, as there is a significant level of integration and interdependency with the online functionality, the Company considers the service to be a single performance obligation for the online and offline content.

The Company enters into arrangements with advertising networks to monetize the in-app advertising inventory. Revenue from in-app advertising placement is recognized at a point in time when the advertisement is placed and is based upon the amount received.

Duolingo English Test revenue is generally recognized once the tests have gone through the proctoring process and a certification decision has been made. This process usually takes less than 48 hours after the test has been completed and uploaded. Customers have 90 days from the date of purchase to take the exam or their purchase will expire and revenue will be recognized. Virtually all customers complete their exams prior to expiration. Sometimes organizations may purchase tests in bulk via coupons with a one year expiration date. The Company will defer revenue from all tests that have not been proctored nor expired.

The Company's users have the option to purchase consumable in-app virtual goods. The Company recognizes revenue over the period in which the user consumes the virtual good, which is generally within a month.

Principal Agent Considerations—The Company makes its application available to be downloaded through third-party digital distribution service providers. Users who purchase subscriptions also pay through the respective app stores. The Company evaluates the purchases via third-party payment processors to determine whether its revenues should be reported gross or net of fees retained by the payment processor. The Company is the principal in the transaction with the end user as a result of controlling, hosting, and integrating the delivery of the virtual items to the end user. The Company records revenue gross as a principal and records fees paid to third-party payment processors as Cost of revenues.

Contract Balances—Deferred revenue mostly consists of payments we receive in advance of revenue recognition, and is mostly related to time-based subscriptions, which will be recognized into revenue over the course of the upcoming year, which is 12 months or less. Additionally, Duolingo English Test has deferred revenue related to tests that have been purchased, but will not be recognized until the tests have been proctored.

Disaggregation of Revenue

In accordance with ASC 606, Revenue from Contracts with Customers, the Company disaggregates revenue from contracts with customers into source of revenue and geographical regions, which most closely depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

Information regarding source of revenues:

	2019	2020
Over time	$54,848	$117,501
Point in time	15,912	44,195
Total revenues	$70,760	$161,696

Information regarding revenue by stream:

	2019	2020
Revenues:		
Subscription	$54,848	$117,501
Advertising	14,118	27,043
Duolingo English Test	1,022	15,155
Other(1)	772	1,997
Total revenues	$70,760	$161,696

(1)Other revenue is mainly comprised of in app purchases of virtual goods.

Information regarding geography of revenue is based upon the location where the users are located or, in the case of the Duolingo English Test, where the tests are taken:

	2019	2020
United States	$33,307	$70,978
Rest of World	37,453	90,718
Total	$70,760	$161,696

Customers located in the United States accounted for 47% and 44% of total revenue for the year ended December 31, 2019 and 2020, respectively. No other country accounted for 10% or more of revenue for the periods presented.

Changes in deferred revenues were as follows:

	2019	2020
Beginning balance—January 1	$9,034	$26,307
Amount from beginning balance recognized into revenues	(9,034)	(26,307)
Recognition of deferred revenues	(45,814)	(91,193)
Deferral of revenues	72,121	145,985
Ending balance—December 31	$26,307	$54,792

4.PROPERTY and EQUIPMENT, net

Property and equipment consists of the following as of December 31, 2019 and 2020:

	2019	2020
Leasehold improvements	$5,158	$7,536
Furniture, fixtures and equipment	962	1,959
Total property and equipment	6,120	9,495
Less: accumulated depreciation	(1,444)	(3,067)
Total property and equipment, net	$4,676	$6,428

Depreciation expense was $527 and $1,624 in 2019 and 2020, respectively, and is predominately included within general and administrative, with nominal amounts in Cost of revenues, Research and development and Sales and marketing in the Company's consolidated statement of operations.

5.CAPITALIZED SOFTWARE, net

Capitalized software consists of the following as of December 31, 2019 and 2020:

	2019	2020
Capitalized software	$7,444	$8,181
Less: accumulated amortization	(5,653)	(5,885)
Capitalized software, net	$1,791	$2,296

Amortization expense of $724 and $632 is recorded in the statements of operations in 2019 and 2020, respectively. For the year ended December 31, 2019, the Company recorded an impairment to write-off the capitalization of an internal-use software project prior to being launched to the user base. The associated amounts have been removed from the gross capitalized software balance and accumulated amortization in the table above.

Amortization expense is included within the following financial statement line items within the Company's consolidated statement of operations:

	2019	2020
Cost of revenues	$103	$86
Sales and marketing	621	546
Total	$724	$632

6.Leases

As discussed in Note 2, "Accounting Policies" the Company adopted ASC 842, Leases, on January 1, 2019. ASC 842 requires a lessee to recognize assets and liabilities on the balance sheet for all leases, with the result being the recognition of a right-of-use (ROU) asset and a corresponding lease liability. The lease liability is equal to the present value of the minimum lease payments for the term of the lease using the discount rate determined at lease commencement and including any optional renewal periods that were determined to be reasonably certain to be exercised. The ROU asset is equal to the initial measurement of the lease liability plus any lease payments made to the lessor at or before the commencement date and any unamortized initial indirect costs incurred by the lessee, less any unamortized lease incentives received. ROU assets are periodically reviewed for impairment whenever events or changes in circumstances arise. During the years ended December 31, 2019 and 2020, the Company incurred no impairment charges on ROU assets.

The discount rate utilized in calculating the lease liability is the rate implicit in the lease, if known; otherwise, the incremental borrowing rate ("IBR") for the expected lease term is used. The Company's IBR approximates the rate the Company would have to pay, on a collateralized basis, to borrow an amount equal to the lease payments under similar terms.

The Company occupies certain facilities with lease agreements which may contain lease escalation clauses and purchase and renewal options. At the inception of a contract, the Company determines whether the arrangement is or contains a lease. A lease is determined to exist if there is an identified asset, the Company has the right to obtain substantially all of the economic benefits from the use of the identified asset, and also the right to direct the use of the asset. Once a lease is determined to exist, the Company determines the lease classification at lease commencement. Leases are classified as operating or finance leases based on specific criteria. The Company determined that it only has operating leases. Operating lease expense is recognized on a straight-line basis on the consolidated statements of operations in general and administrative expenses. On the consolidated statements of changes in cash flows, payments for operating leases, including the interest component, are included in operating activities.

The Company has entered into various operating leases for its office space expiring between fiscal 2021 and 2035. Certain lease agreements contain an option for the Company to renew a lease for a term of up to five years. The Company considers these options, which may be elected at the Company's sole discretion, in determining the lease term on a lease-by-lease basis.

During 2016, the Company moved into new office space under an operating lease that expires on May 31, 2030. The lease for the Company's office space provides the ability for the Company to cancel the lease with at least twelve months prior written notice; this ability starts on October 31, 2025. Additionally there is a five year extension option in the lease which the company has not included in the lease term. The remaining payments related to this lease agreement as of December 31, 2020 are approximately $9,568.

In November 2019, the Company signed a new lease for contiguous space. The term of the newly executed lease is 127 months beginning on November 1, 2019 and expiring on May 31, 2030. The lease for the company's office space provides the ability for the Company to cancel the lease with at least twelve months prior written notice starting October 31, 2025. Additionally there is a five year extension option in the lease which the company has not included in the lease term. The remaining payments related to this lease agreement as of December 31, 2020 are approximately $2,380.

The Company applied ASC 842 to all existing leases at January 1, 2019 using the modified retrospective approach. As a result, prior period amounts have not been adjusted and continue to be reported in accordance with the Company's historical accounting under ASC 840, Leases. The Company has elected to separate lease and non-lease components for all asset classes, did not elect to use hindsight to determine the lease term, and made an accounting policy election for short-term leases which does not require the capitalization of leases with terms of 12 months or less at lease commencement.

As a result of adoption of ASC 842 on January 1, 2019, the Company recognized $5,798 of ROU assets related to operating leases in Operating lease right-of-use assets and $6,380 of corresponding lease liabilities, of which $187 is included in Accrued expenses and other liabilities and $6,193 is included in Obligation under operating leases on the consolidated balance sheets. The difference is attributable to the deferred rent and tenant improvement allowance balance as of December 31, 2018 that reduced the ROU asset balance on January 1, 2019, of which $581 was removed from Long-term liabilities on the consolidated balance sheets. The Company also recorded a Cumulative effect of adoption of new accounting standard to accumulated deficit of $363. See Note 2, "Summary of Significant Accounting Policies" for further information on the impact of adoption.

The following represents the components of lease cost for the years ended December 31, 2019 and 2020:

	Year Ended December 31,	
	2019	2020
Operating lease cost	$787	$1,721
Operating cash flows from operating leases	$903	$1,624
Operating lease assets obtained in exchange for new lease liabilities	$3,345	$—
Weighted-average remaining lease term	9 years, 7 months	8 years, 11 months
Weighted-average discount rate	7 %	7 %

Short-term lease cost of $235 and $317 and is recorded in the statements of operations in 2019 and 2020, respectively. The following table reconciles future minimum undiscounted rental commitments for operating leases to operating lease liabilities record on the consolidated balance sheet as of December 31, 2020:

Fiscal year	
2021	$1,696
2022	1,192
2023	1,211
2024	1,231
2025	1,265
Thereafter	5,876
Total undiscounted lease payments	$12,471
Present value adjustment	(3,229)

Operating lease liabilities	$9,242

Current lease liabilities of $974 and $1,111 are presented within Accrued expenses and other liabilities while non-current lease liabilities of $9,242 and $8,131 are presented within the obligation under operating leases, net on the consolidated balance sheets for the years ended December 31, 2019 and 2020 respectively.

7.Income Taxes

The Company had no income tax provision during the year ended 2019. The Company has incurred $68 provision for income taxes for the year ended December 31, 2020, of which $26 was related to foreign income taxes and $42 for state income taxes.

The Company has the following deferred tax assets (liabilities) as of December 31, 2019 and 2020:

	2019	2020
Net operating loss carryforwards	$20,479	$20,912
Equity compensation	103	1,063
Research and development credits	3,338	4,936
Lease liability	2,373	2,184
Other DTA	100	65
Sales tax / VAT reserve	—	544
Valuation allowance	(23,851)	(26,236)
Total deferred tax assets	2,542	3,468
ROU asset	(2,124)	(1,908)
Property and equipment	(16)	(1,014)
Capitalized software	(396)	(543)
Other DTL	(6)	(3)
Total deferred tax liabilities	(2,542)	(3,468)
Net deferred taxes	$—	$—

The Company has provided a valuation allowance for the net deferred tax asset as it is not more likely than not that the asset will be realized. The movement in valuation allowance of $2,385 is primarily related to the generation of additional net operating losses and research and development credits.

The following table represents the activity in our valuation allowance for the years ended December 31, 2019 and 2020:

	Year Ended December 31,	
	2019	2020
Beginning balance—January 1	$(20,602)	$(23,851)
Valuation allowances established	(3,249)	(2,928)
Release of valuation allowances	—	543
Ending balance—December 31	$(23,851)	$(26,236)

The provision for income taxes differs from the amounts computed by applying the federal statutory rate as follows for the periods ended December 31, 2019 and 2020:

	2019	2020
Federal statutory rate	21.0 %	21.0 %
State taxes	3.0	1.8
Meals and entertainment	(2.2)	(0.9)
Commuter benefits	(0.1)	(0.1)
Stock options	(5.5)	(18.4)
GILTI	—	(0.5)
Other permanent adjustments	(0.2)	(0.3)
Research and development credit	7.3	10.2
Valuation allowance	(23.3)	(13.2)
Effective income tax rate	— %	(0.4)%

The 2019 and 2020 effective tax rate is less than the statutory rate primarily as a result of the valuation allowance for net deferred tax assets.

No uncertain tax benefits have been recorded in 2019 or 2020, respectfully.

On December 22, 2017, the US government enacted comprehensive tax legislation under the Tax Cuts and Jobs Act (the “Tax Act”), which, among other things, included a provision designed to tax Global Intangible Low Tax Income (“GILTI”) earned by non-US corporate subsidiaries of US shareholders starting in 2018. Due to operations of a foreign subsidiary beginning in 2020, the Company has elected to account for any future GILTI tax liabilities as period costs and will expense those liabilities in the period incurred.

On March 27, 2020, the “Coronavirus Aid, Relief and Economic Security (CARES) Act” (the “Act”) was signed into law. The Act includes provisions relating to refundable payroll tax credits, deferment of the employer portion of certain payroll taxes, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property. The Company analyzed the provisions of the Act and determined there was no significant impact to its income taxes for the year ended December 31, 2020.

The Company has approximately $82,231 in federal net operating loss carryforwards and approximately $41,096 in state net operating loss carryforwards. Certain of these loss carryforwards have an indefinite life and other amounts are available to offset future taxable income through 2040. The Company has approximately $4,936 in federal general business credits that are available to offset future taxable income through 2040. The Company is in the process of completing an IRC Section 382 and 383 analysis for 2020 and will update the deferred tax assets for any changes in the NOLs and R&D tax credit once the analysis is complete. Any future ownership changes could also impact the utilization of the NOLs and R&D tax credits.

The Company’s tax years through the 2020 tax year remain subject to examination by federal and state tax authorities.

8.Convertible Preferred Stock

Convertible preferred stock is comprised of the following as of December 31, 2019 and 2020:

December 31, 2019	Shares						
Series	Authorized	Outstanding	Per share price at issuance	Aggregate liquidation preference	Funds received	Fees incurred	Carrying value of convertible preferred stock
A	3,865	3,865	$0.85	$3,300	$3,300	$52	$3,248
B	6,298	6,298	2.38	15,000	15,000	60	14,940
C	2,948	2,948	6.78	20,000	20,000	112	19,888
D	3,154	3,154	14.27	45,000	45,000	146	44,853
E	1,224	1,224	20.43	25,000	25,000	92	24,909
F	758	758	39.57	30,000	30,000	153	29,848
Total	18,247	18,247		$138,300	$138,300	$614	$137,686

December 31, 2020	Shares						
Series	Authorized	Outstanding	Per share price at issuance	Aggregate liquidation preference	Funds received	Fees incurred	Carrying value of convertible preferred stock
A	3,865	3,865	$0.85	$3,300	$3,300	$52	$3,248
B	6,298	6,298	2.38	15,000	15,000	60	14,940
C	2,948	2,948	6.78	20,000	20,000	112	19,888
D	3,154	3,154	14.27	45,000	45,000	146	44,853
E	1,224	1,224	20.43	25,000	25,000	92	24,909
F	758	758	39.57	30,000	30,000	153	29,848
G	241	241	41.38	10,000	10,000	24	9,976
H	586	586	59.77	35,000	35,000	52	34,947
Total	19,074	19,074		$183,300	$183,300	$691	$182,609

Each share of convertible preferred stock has a liquidation preference over common stock equal to the original issue price of the preferred stock plus any declared but unpaid dividends. No single class of preferred stock has liquidation preference that is senior in payment to other classes of preferred stock. The preferred stock does not accumulate undeclared and unpaid dividends.

Each share of convertible preferred stock is convertible into shares of common stock at the option of the stockholder based upon a conversion rate that is 1:1 and may be adjusted under certain circumstances as defined in the Company’s Amended and Restated Certificate of Incorporation. If the Company consummates a public offering from which the Company receives gross proceeds of at least $50,000, the conversion becomes mandatory for the convertible preferred stockholders. Also, the conversion becomes mandatory for a preferred stock class, if the holders of at least 65% of the then outstanding shares of preferred stock elect to convert. The Company has reserved an equal number of shares of common stock for the potential conversion of each series of convertible preferred stock. The convertible preferred stockholders have voting rights equal to common stockholders. The preferred stockholders are entitled to the number of votes equal to the number of shares of common stock into which the preferred shares could be converted.

In November 2019, the Company completed the Series F Convertible Preferred Stock (Series F) financing and issued 758 shares of Series F preferred stock to accredited investors for $39.57 per share, generating gross proceeds of $30,000 and incurring issuance costs of $153, which were recorded as a reduction to the carrying value.

In April 2020, the Company completed the Series G Convertible Preferred Stock (Series G) financing and issued 241 shares of Series G preferred stock to accredited investors for $41.38 per share, generating gross proceeds of $10,000 and incurring issuance costs of $24, which were recorded as a reduction to the carrying value of the convertible preferred stock.

In November 2020, the Company completed the Series H Convertible Preferred Stock (Series H) financing and issued 586 shares of Series H preferred stock to accredited investors for $59.77 per share, generating gross proceeds of $35,000 and incurring issuance costs of $52, which were recorded as a reduction to the carrying value of the convertible preferred stock.

All classes of convertible preferred stock are being classified as outside of stockholders' deficit as the preferred stock has redemption features that are outside of the Company's control upon certain triggering events, such as a "Deemed Liquidation Event." In the case of a Deemed Liquidation Event, the holders of Preferred Stock are entitled to be paid out of the assets of the Company, prior and in preference to any distribution to the holders of the common stock. Because the Company's common stockholders do not control the Company's Board of Directors, a potential Deemed Liquidation Event is considered to be outside of the control of the Company, resulting in classification outside of stockholders' deficit.

9.Stock-based Compensation

The Company has a stock incentive plan whereby the Board of Directors may grant stock options or restricted stock units (RSUs) to employees, directors and consultants to purchase shares of the Company's common stock under the 2011 Equity Incentive Plan (Plan). The Company has authorized 10,113 common shares to be issued under the Plan. The Plan permits the granting of incentive stock options and nonqualified stock options. The Company's stock options vest based on terms in the stock option agreements and generally vest over four years and have a term of ten years subject to the continuous service to the Company by the optionee. Incentive stock options may be granted at an exercise price of not less than 100% of the estimated fair value of the stock at the date of the grant as determined by the Company's Board of Directors. If incentive stock options are granted to a stockholder who owns more than 10% of the voting power of all classes of stock of the Company, the exercise price of the incentive stock options must be at least 110% of the estimated fair value of the common stock at the date of the grant.

In November of 2020, the Board approved the amended and restated Plan, which provides for, among other things, the ability of the Company to grant RSUs. Each RSU award vests based upon the satisfaction, during the term of the RSUs, of two requirements: length of service and a liquidity event defined as a change in control or a qualified IPO.

No compensation expense has been included for RSUs as the vesting conditions are not probable. As of December 31, 2020, the Company had granted 34 RSUs, with a weighted-average grant date fair value of $38.08.

Stock option activity for 2020 and 2019 is set forth below:

	Number of options	Weighted-averageexerciseprice	Weighted- average remaining contractual life (years)	Aggregate intrinsic value
Options outstanding at January 1, 2019	4,899	$5.10		
Granted	2,079	9.42		
Exercised	(317)	4.07		
Repurchased	—	—		
Forfeited and expired	(154)	5.79		
Options outstanding at December 31, 2019	6,507	$6.51	7.68	$51,488
Granted	2,295	21.49		
Exercised	(388)	5.22		
Repurchased	—	—		
Forfeited and expired	(49)	8.17		
Options outstanding at December 31, 2020	8,365	$10.68	7.47	$230,596
Options exercisable at December 31, 2020	4,190	$5.65	6.04	$137,142

The total weighted-average grant date fair value of options granted was $4.27 and $9.77 and for the years ended December 31, 2019 and 2020, respectively. The total intrinsic value of options exercised was approximately $6,058 during the year ended December 31, 2020. There were 1,491 and 475 options available for grant at December 31, 2019 and 2020, respectively.

As of December 31, 2020, there was approximately $27,966 of unrecognized compensation cost related to stock options granted under the plan. That cost is expected to be recognized over a weighted-average period of approximately three years. The amount of unrecognized compensation expense for RSUs as of December 31, 2020 was $1,311 with a weighted-average remaining contractual life of 3.67 years, for a total unrecognized compensation expense of $29,276.

On November 18, 2020, a secondary sale transaction was completed between certain founders and employees of the Company and a new investor. The investor purchased 468 shares of common stock at a purchase price of $59.77 per share, which was deemed in excess of the fair market value of the common stock of $38.08 per share on the date of purchase. The Company did not arrange these transactions but did waive its right of first refusal in order to permit such transactions. Further, the Company did not receive any proceeds from these transactions. Stock-based

compensation expenses of $10,158 were recognized in the consolidated statements of operations and comprehensive loss within general and administrative expense for the year ended December 31, 2020, to reflect the difference in the Company's fair market value of its common stock and the purchase price.

Compensation expense is recognized over the service period, which approximates the vesting period. Total compensation expense was $3,725 and $17,031 in 2019 and 2020, respectively.

Stock based compensation expense is included in the consolidated statements of operations as shown in the following table:

	Year Ended December 31,	
	2019	2020
Cost of revenues	$6	$6
Research and development	1,552	2,773
Sales and marketing	341	348
General and administrative	1,826	13,904
Total	$3,725	$17,031

Nominal amounts of stock based compensation expense was capitalized into capitalized software for the years ended December 31, 2019 and 2020.

The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	2019	2020
Risk-free interest rate	1.60–2.52%	0.32–0.68%
Expected life	5.97 years	6.01 years
Expected volatility	43.57 –46.65%	45.50 –49.38%
Dividend yield	— %	— %
Fair value of common stock	$7.48 - $14.42	$14.42 - $38.08

The risk-free interest rate is based on the US treasury yield curve in effect as of the grant date. When establishing the expected life assumptions, the Company annually reviews historical employee exercise behavior of option grants and other economic data impacting the period the stock options are expected to remain outstanding. Expected volatility is determined using a benchmark index of similar public companies. The Company based the assumed dividend yield on its expectation of not paying dividends in the foreseeable future. Because the Company's common stock is not yet publicly traded, the Company must estimate the fair value of common stock. The Board estimates the fair value of the common stock at the time awards are granted based on factors such as valuations of comparable companies, the status of the Company's development and sales efforts, revenue growth, and additional objective and subjective factors relating to the Company's business.

10.Commitments and Contingencies

Legal Proceedings - From time to time, the Company may become involved in various legal proceedings in the ordinary course of its business and may be subject to third-party infringement claims.

Sales and use and value-added tax (VAT) - The Company determined that it was required to pay sales and use and VAT taxes in various jurisdictions. The Company is in the process of filing voluntary disclosure agreements with certain jurisdictions and remitting the estimated taxes. If these jurisdictions determine that additional amounts are necessary, the Company will be required to pay accordingly.

Related Parties - The Company has determined that there were no transactions with related parties as of or during the year ended December 31, 2019 and 2020

11.Accrued Expenses and Other Liabilities

Accrued expenses and other liabilities consisted of the following:

	December 31,	
	2019	2020
Sales and VAT tax accrual	$23	$2,301
Marketing related accruals	—	1,513
Obligations under current leases	974	1,111
Employee related benefits	847	889
Other	145	2,820
Total	$1,989	$8,634

12.Employee Benefit Plan

The Company sponsors a profit sharing plan with a 401(k) feature, the Duolingo Retirement Plan, (the "Plan") for eligible employees. The Plan provides for Company safe harbor matching contributions of 100% of the first 3% of the employees' elective deferrals and 50% of the next 2%, with vesting starting upon the first day of employment. The Company also has the option to make discretionary matching or profit sharing contributions. The Company made safe harbor matching contributions of approximately $1,014 and $1,796 and during 2019 and 2020, respectively. The Company did not make any discretionary matching or profit sharing contributions during 2019 or 2020.

13.Earnings Per Share

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers all series of the Convertible preferred stock to be participating securities. Under the two-class method, the net loss attributable to common stockholders is not allocated to the Convertible preferred stock as the holders of the Convertible preferred stock do not have a contractual obligation to share in the Company's losses. Basic net loss per share attributable to common stockholders is computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase. The diluted net loss per share attributable to common stockholders is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period. For purposes of this calculation, the Convertible preferred stock are considered to be potential common stock equivalents but have been excluded from the calculation of diluted net loss per share attributable to common stockholders as their effect is anti-dilutive.

	Year Ended December 31,	
(In thousands, except per share data)	2019	2020
Numerator:		
Net loss	$(13,554)	$(15,776)
Denominator:		
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	12,373	12,735
Basic and diluted loss per common share	$(1.10)	$(1.24)

Since the Company was in a net loss position for the year ended December 31, 2019 and 2020, there is no difference between the number of shares used to calculate basic and diluted loss per share. The potential shares of common stock that were excluded from the computation of diluted net loss per share attributable to common stockholders for the period presented because including them would have been antidilutive are as follows:

	Number of Shares	
	12/31/2019	12/31/2020
Convertible preferred stock	18,247	19,074
Stock options	3,189	4,191
Total	21,436	23,265

14.Subsequent Events

Subsequent events were evaluated through April 30, 2021, the date that these consolidated financial statements were available to be issued.

In February of 2021, the Company initiated a tender offer which allowed employees to sell up to 10% of their vested options or shares back to the Company at selling price of $59.77, which was above fair market value of $38.08. The Company paid $13,479 and incurred $5,275 of additional compensation expense related to this tender representing the difference between the aggregate selling price and fair market value of the options and shares sold, and a $7,335 increase to Additional paid-in capital. As a result of this tender, 220 shares underlying options were put back into the option pool and 23 shares were retired with an $868 increase to Additional paid-in capital.

On March 10, 2021, the Company announced that it is ending its non-employee volunteer program, which began in 2013 to build and improve the courses using an internal tool. As part of this change, those contributors who helped pave the way to Duolingo's success will be eligible to receive a one-time award, up to an aggregate amount of approximately $5,098, including fees paid to process payments of approximately $526. The payments are expected to be paid out during the second quarter of 2021, but the expense will be recognized in the first quarter of 2021.

Duolingo, Inc. and Subsidiaries

Unaudited Condensed Consolidated Balance Sheets

(Amounts in thousands, except par value amounts)

Unaudited Con

	December 31, 2020	March 31, 2021
ASSETS		
Current assets		
Cash and cash equivalents	$120,490	$117,459
Accounts receivable	20,450	23,347
Deferred cost of revenues	13,585	16,059
Prepaid expenses and other current assets	3,855	2,129
Total current assets	158,380	158,994
Property and equipment, net	6,428	6,815
Capitalized software, net	2,296	3,154
Operating lease right-of-use assets	8,073	7,260
Other assets	562	651
Total assets	$175,739	$176,874
LIABILITIES, CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT		
Current liabilities		
Accounts payable	$2,196	$3,780
Deferred revenues	54,792	65,262
Income tax payable	68	80
Accrued expenses and other current liabilities	8,634	14,956
Total current liabilities	65,690	84,078
Long term obligation under operating leases	8,131	7,972
Total liabilities	73,821	92,050
Commitments and contingencies (Note 9)		
Convertible preferred stock, $.0001 par value; 19,074 shares issued and outstanding at December 31, 2020 and March 31, 2021	182,609	182,609
Stockholders' deficit		
Common stock, $.0001 par value; 42,800 authorized shares; 12,794 issued and outstanding at December 31, 2020 and 13,118 issued and outstanding at March 31, 2021.	1	1
Additional paid-in capital	30,087	26,465
Accumulated deficit	(110,779)	(124,251)
Total stockholders' deficit	(80,691)	(97,785)
Total liabilities, convertible preferred stock and stockholders' deficit	$175,739	$176,874

See accompanying notes to the unaudited condensed consolidated financial statements.

Unaudited Condensed

Duolingo, Inc. and Subsidiaries

Unaudited Condensed Consolidated Statements of Operations and Comprehensive Loss

(Amounts in thousands, except per share amounts)

	Three Months Ended March 31,	
	2020	2021
Revenues	$28,112	$55,360
Cost of revenues	8,214	15,019
Gross profit	19,898	40,341
Operating expenses:		
Research and development	9,576	22,529
Sales and marketing	5,511	19,773
General and administrative	7,266	11,453
Total operating expenses	22,353	53,755
Loss from operations	(2,455)	(13,414)
Other income (expense), net	233	(41)
Loss before provision for income taxes	(2,222)	(13,455)
Provision for income taxes	11	17
Net loss and comprehensive loss	$(2,233)	$(13,472)

Basic and diluted net loss per share attributable to common stockholders	$(0.18)	$(1.04)

See accompanying notes to the unaudited condensed consolidated financial statements.

Unaudited Condensed

Duolingo, Inc. and Subsidiaries

Unaudited Condensed Consolidated Statements of Convertible Preferred Stock and Stockholders' Deficit

(Amounts in thousands)

	Preferred Stock		Common Stock				
	Shares	Amount	Shares	Amount`	Additional Paid-InCapital	Retained Deficit	Total
BALANCE—Balance—January 1, 2020	18,247	$137,686	12,406	$1	$11,026	$(95,003)	$(83,976)
Stock-based compensation	—	—	—	—	1,154	—	1,154
Stock options exercised	—	—	50	—	282	—	282
Net loss and comprehensive loss	—	—	—	—	—	(2,233)	(2,233)
BALANCE—March 31, 2020	18,247	$137,686	12,456	$1	$12,462	$(97,236)	$(84,773)
Balance—January 1, 2021	19,074	$182,609	12,794	$1	$30,087	$(110,779)	$(80,691)
Stock-based compensation	—	—	—	—	2,551	—	2,551
Stock options exercised	—	—	347	—	2,030	—	2,030
Common stock repurchased and retired	—	—	(23)	—	(868)	—	(868)
Options repurchased	—	—	—	—	(7,335)	—	(7,335)
Net loss and comprehensive loss	—	—	—	—	—	(13,472)	(13,472)
BALANCE—March 31, 2021	19,074	$182,609	13,118	$1	$26,465	$(124,251)	$(97,785)

See accompanying notes to the unaudited condensed consolidated financial statements.

Unaudited

Duolingo, Inc. and Subsidiaries

Unaudited Condensed Consolidated Statements of Cash Flows

(Amounts in thousands)

	Three Months Ended March 31,	
	2020	2021
Cash flows from operating activities:		
Net loss	$(2,233)	$(13,472)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	399	600
Stock-based compensation	1,154	2,551
Changes in:		
Deferred revenue	8,769	10,470
Accounts receivable	(3,083)	(2,897)
Deferred cost of revenue	(2,300)	(2,474)
Prepaid expenses and other current assets	1	1,929
Accounts payable	(448)	1,584
Accrued expenses and other current liabilities	1,484	6,267
Noncurrent assets and liabilities	976	565
Net cash provided by operating activities	4,719	5,123
Cash flows from investing activities:		
Capitalized software	(123)	(939)
Purchase of property and equipment	(1,600)	(839)
Net cash used for investing activities	(1,723)	(1,778)

Cash flows from financing activities:		
Proceeds from exercise of stock options	282	2,030
Repurchases of stock options	—	(7,335)
Repurchase of common stock	—	(868)
Payment of deferred offering costs	—	(203)
Net cash (used for) provided by financing activities	282	(6,376)
Net (decrease) increase in cash and cash equivalents	3,278	(3,031)
Cash and cash equivalents - Beginning of period	59,843	120,490
Cash and cash equivalents - End of period	$63,121	$117,459
Supplemental disclosure of cash flow information:		
Cash paid for interest	$—	$—
Cash paid for income taxes	$—	$1
Supplemental disclosure of noncash investing activities:		
Capitalized software included in accrued expenses	$—	$67

See accompanying notes to the unaudited condensed consolidated financial statements.

Notes to the

Duolingo, Inc. and Subsidiaries

Notes to the Unaudited Condensed Consolidated Financial Statements

1.Description of the Business and Basis of Presentation

Duolingo, Inc. (the "Company") was formed on August 18, 2011 and the Duolingo app was launched to the general public on June 19, 2012. The Company's headquarters are located in Pittsburgh, Pennsylvania.

Duolingo is a US-based language-learning website and mobile app, as well as a digital language proficiency assessment exam. The Company has a freemium business model: the app and the website are accessible free of charge, although Duolingo also offers a premium service, Duolingo Plus, for a subscription fee. As of the date of this filing, Duolingo offers courses in 40 different languages, including Spanish, English, French, German, Italian, Portuguese, Japanese and Chinese. We have locations in the United States and China.

Principles of Consolidation–The Unaudited Condensed Consolidated Financial Statements include the accounts of the Company and subsidiaries over which the Company has control. All intercompany transactions and balances have been eliminated.

Basis of Presentation–The accompanying Unaudited Condensed Consolidated Financial Statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") from the Company's accounting records and reflect the consolidated financial position and results of operations for the three months ended March 31, 2020 and 2021. Unless otherwise specified, all dollar amounts are referred to in thousands.

The Unaudited Condensed Consolidated Financial Statements have been prepared pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). Certain information and note disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such SEC rules. We believe that the disclosures made are adequate to make the information presented not misleading. In our opinion, all adjustments considered necessary for a fair presentation of the financial statements have been included, and all adjustments are of a normal and recurring nature. We consistently applied the accounting policies consistent with the annual consolidated financial statements elsewhere in this prospectus, in preparing these Unaudited Condensed Consolidated Financial Statements, with the exception of accounting standard updates described in Note 2, "Recently Added Accounting Pronouncements." These Unaudited Condensed Consolidated Financial Statements should be read in conjunction with the audited financial statements and the notes included in elsewhere in this prospectus.

2.Summary of Significant Accounting Policies

Under the JOBS Act, emerging growth companies also can delay adopting new or revised accounting standards until such time as those standards would otherwise apply to private companies. While we have not historically delayed the adoption of new or revised accounting standards until such time as those standards would apply to private companies, we have elected to take advantage of this extended transition period and, as a result, our operating results and financial statements in the future may not be comparable to the operating results and financial statements of companies who have adopted the new or revised accounting standards.

Accounting Principles—The financial statements and accompanying notes are prepared in accordance with generally accepted accounting principles in the United States of America (GAAP).

Use of Estimates—The preparation of unaudited condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Significant estimates and assumptions reflected in the consolidated financial statements include, but are not limited to, useful lives of property and equipment, valuation of deferred tax assets and liabilities, stock-based compensation, common stock valuation, operating lease right-of-use assets and liabilities, capitalization of internally developed software and associated useful lives and contingent liabilities. Actual results may differ materially from such estimates. Management believes that the estimates, and judgments upon which they rely, are reasonable based upon information available to them at the time that these estimates and judgments are made. To the extent that there are material differences between these estimates and actual results, the Company's consolidated financial statements will be affected.

Deferred Offering Costs—Deferred offering costs, which consist of direct incremental legal, accounting, and consulting fees relating to the IPO, are capitalized. The deferred offering costs will be offset against IPO proceeds upon the consummation of the IPO. In the event the planned IPO is terminated, the deferred offering costs will be expensed. There were no deferred offering costs recorded as of December 31, 2020. As of March 31, 2021, there was $203 of deferred offering costs recorded within Prepaid expenses and other current assets on the unaudited condensed consolidated balance sheets.

Cash and Cash Equivalents—Cash consists primarily of cash on hand and bank deposits. Cash equivalents consist primarily of money market accounts with maturities of three months or less at the date of acquisition and are stated at cost, which approximates fair value. The Company maintains cash deposits with financial institutions that may exceed federally insured limits at times. The following table shows the breakout between cash and money market funds.

	December 31, 2020	March 31, 2021
Cash	$20,428	$13,396
Money market funds	100,062	104,063
Total	$120,490	$117,459

The Money market funds are considered Level 1 financial assets. Level 1 financial assets use inputs that are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date.

Advertising Costs—Advertising costs were approximately $12,066 and $4,035 for the three months ended March 31, 2021 and 2020, respectively, and are included within Sales and marketing in the unaudited condensed consolidated statements of operations.

Income Taxes—The Company's interim period provision for income taxes is computed by using an estimate of the annual effective tax rate, adjusted for discrete items taken into account in the relevant period, if any. Each quarter, the annual effective income tax rate is recomputed and if there are material changes in the estimate, a cumulative adjustment is made.

Contributors—On March 10, 2021, the Company announced that it was ending its non-employee volunteer program, which began in 2013 to build and improve language courses. As part of this change, those contributors who participated in the program became eligible to receive a one-time award, up to an aggregate amount of approximately $5,098, including fees paid to process payments of approximately $526. The Company accounted for this under ASC 958-720, Not-For-Profit Entities - Other Expenses and ASC 720-25, Contributions Made, based on the nature of this contribution, which is an unconditional promise. This amount was included in the unaudited condensed consolidated statement of operations within Sales and marketing in the three months ended March 31, 2021, which is when the Company made the unconditional promise to pay, and is included in the unaudited condensed consolidated balance sheets within Accrued expenses and other liabilities as of March 31, 2021. The payments are expected to be paid out during the second quarter of 2021.

Concentration of Credit Risk—The Company's concentration of credit risk relates to financial institutions holding the Company's cash and cash equivalents and platforms with significant accounts receivable balances and revenue transactions.

The Company maintains cash deposits with financial institutions that may exceed federally insured limits at times. Management believes that the financial institutions that hold the Company's deposits are financially credit worthy and, accordingly, minimal credit risk exists with respect to those balances.

The majority of our revenue comes through our subscriptions and advertising streams and payments are made to Duolingo through service providers. The top three service providers, Apple, Google and Stripe, accounted for 47.8%, 28.9% and 13.8% of total Accounts receivable as of December 31, 2020, respectively. The top two, Apple and Google, accounted for 62.7% and 20.6% as of March 31, 2021, respectively.

Two service providers, Apple and Google, processed 55.1% and 29.3% of total revenue for the three months ended March 31, 2020 and three service providers, Apple, Google and Stripe, processed 50.1%, 28.3% and 10.3% of total revenue for the three months ended March 31, 2021, respectively.

Recently Adopted Accounting Pronouncements—

In August 2018, the FASB issued Accounting Standard Update (ASU) No. 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That is a Service Contract (ASU 2018-15). ASU 2018-15 aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software. The Company adopted this guidance on January 1, 2021 and it did not have a material impact on its consolidated financial statements and related disclosures upon adoption.

Recently Issued Pronouncements Not Yet Adopted

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which simplifies the accounting for income taxes by removing certain exceptions and by clarifying and amending existing guidance in order to improve consistent application of and simplify GAAP for other areas of Topic 740. The guidance will be effective for the Company beginning after December 15, 2021. Early adoption is permitted. The Company is currently evaluating the effect that ASU 2019-12 will have on its consolidated financial statements and related disclosures.

3.Revenue

The Company has three predominant sources of revenue; time-based subscriptions, in-app advertising placement by third parties and the Duolingo English Test. Revenue is recognized upon transfer of control of promised products or services to users in an amount that reflects the consideration the Company expects to receive in exchange for those services. The Company does not enter into contracts with a customer that contain multiple promises that result in multiple performance obligations. Revenue is recorded net of taxes, assessed by a government authority that are both imposed on and concurrent with specific revenue transactions between us and our users.

Revenue from time-based subscriptions includes a stand-ready obligation to provide hosting services that are consumed by the customer over the subscription period. Users can purchase Duolingo monthly or they can purchase a six-month or year-long subscription and pay for the subscription at the time of purchase. Therefore, such payments are initially recorded to deferred revenue. The user has the ability to download limited content offline. However, as there is a significant level of integration and interdependency with the online functionality, the Company considers the service to be a single performance obligation for the online and offline content.

The Company enters into arrangements with advertising networks to monetize the in-app advertising inventory. Revenue from in-app advertising placement is recognized at a point in time when the advertisement is placed and is based upon the amount received.

Duolingo English Test revenue is generally recognized once the tests have gone through the proctoring process and a certification decision has been made. This process usually takes less than 48 hours after the test has been completed and uploaded. Customers have 90 days from the date of purchase to take the exam or their purchase will expire and revenue will be recognized. Virtually all customers complete their exams prior to expiration. Sometimes organizations may purchase tests in bulk via coupons with a one year expiration date. The company will defer revenue from all tests that haven't been proctored nor expired.

The Company's users have the option to purchase consumable in-app virtual goods. The Company recognizes revenue over the period in which the user consumes the virtual good, which is generally within a month.

Principal Agent Considerations—The Company makes its application available to be downloaded through third-party digital distribution service providers. Users who purchase subscriptions also pay through the respective app stores. The Company evaluates the purchases via third-party payment processors to determine whether its revenues should be reported gross or net of fees retained by the payment processor. The Company is the principal in the transaction with the end user as a result of controlling, hosting, and integrating the delivery of the virtual items to the end user. The Company records revenue gross as a principal and records fees paid to third-party payment processors as Cost of revenues.

Contract Balances—Deferred revenue mostly consists of payments we receive in advance of revenue recognition, and is mostly related to time-based subscriptions, which will be recognized into revenue over the course of the upcoming year, which is 12 months or less. Additionally, Duolingo English Test has deferred revenue related to tests that have been purchased, but will not be recognized until the tests have been proctored.

Disaggregation of Revenue

In accordance with Accounting Standards Codification 606, Revenue from Contracts with Customers, the Company disaggregates revenue from contracts with customers into source of revenue and geographical regions, which most closely depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors.

Information regarding source of revenues:

	Three Months Ended March 31,	
	2020	2021
Over time	$22,171	$40,055
Point in time	5,941	15,305

Total revenue	$28,112	$55,360

Information regarding revenue by stream:

	Three Months Ended March 31,	
Revenues:	2020	2021
Subscription	$22,171	$40,055
Advertising	5,008	9,275
Duolingo English Test	753	5,035
Other (1)	180	995
Total revenues	$28,112	$55,360

(1)Other revenue is mainly comprised of in app purchases of virtual goods.

Changes in deferred revenues were as follows:

	Three Months Ended March 31,	
	2020	2021
Beginning balance—January 1	$26,307	$54,792
Amount from beginning balance recognized into revenue	(12,045)	(25,891)
Recognition of deferred revenue	(10,126)	(15,741)
Deferral of revenue	30,940	52,102
Ending balance—March 31	$35,076	$65,262

4.PROPERTY AND EQUIPMENT, net

Property and equipment consists of the following as of December 31, 2020 and March 31, 2021:

	December 31, 2020	March 31, 2021
Leasehold improvements	$7,536	$8,310
Furniture, fixtures and equipment	1,959	2,025
Total property and equipment	9,495	10,335
Less: accumulated depreciation	(3,067)	(3,520)
Total property and equipment, net	$6,428	$6,815

Depreciation expense for the three months ended March 31, 2020 and 2021 was $340 and $452, respectively, and is predominately included within General and administrative, with nominal amounts in Cost of revenues, Research and development and Sales and marketing in the unaudited condensed consolidated statement of operations.

5.CAPITALIZED SOFTWARE, net

Capitalized software consists of the following as of December 31, 2020 and March 31, 2021:

	December 31, 2020	March 31, 2021
Capitalized software	$8,181	$9,187
Less: accumulated amortization	(5,885)	(6,033)
Capitalized software, net	$2,296	$3,154

Amortization expense for the three months ended March 31, 2020 and 2021 was $59 and $148, respectively, and is recorded in the Company's unaudited condensed consolidated statement of operations within the following financial statement line items:

	Three Months Ended March 31,	
	2020	2021
Cost of revenue	$26	$—
Sales and marketing	33	148
Total	$59	$148

The Company reviews its long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If the sum of the estimated undiscounted future cash flows expected to result from the use and eventual disposition of an asset is less than the carrying amount of the asset, an impairment loss is recognized. Measurement of an impairment loss is based on the fair value of the asset. No assets were impaired during the year ended December 31, 2020 or the three months ended March 31, 2021.

6.Income Taxes

The income tax provision for interim periods is comprised of tax on ordinary income (loss) provided at the most recent projected annual effective tax rate (PAETR), adjusted for the tax effect of discrete items. Management estimates the PAETR each quarter based on the forecasted annual pretax income or (loss). The Company is required to reduce deferred tax assets by a valuation allowance if, based on all available evidence, it is considered more likely than not that some portion or all of the benefit of the deferred tax assets will not be realized in future periods. The Company also records the income tax impact of certain discrete, unusual or infrequently occurring items including changes in judgment about valuation allowances and effects of changes in tax laws or rates, in the interim period in which they occur.

The actual year-to-date income tax expense (benefit) is the product of the most current PAETR and the actual year-to-date pretax income (loss) adjusted for any discrete tax items. The income tax expense (benefit) for a particular quarter, except for the first quarter, is the difference between the year-to-date calculation of income tax expense (benefit) and the year-to-date calculation for the prior quarter. Items unrelated to current period ordinary income or (loss) are recognized entirely in the period identified as a discrete item of tax. The inclusion of discrete items in a particular quarter can cause the actual effective rate for that quarter to vary significantly from the PAETR.

Therefore, the actual effective income tax rate for a particular quarter can vary significantly based upon the jurisdictional mix and timing of actual earnings compared to projected annual earnings, permanent items, earnings for those jurisdictions that maintain a valuation allowance, tax associated with jurisdictions excluded from the PAETR calculation and discrete items.

Annual Effective Tax Rate

The PAETR, which excludes the impact of discrete items, was (0.5)% and (0.1)% as of the three months ended March 31, 2020 and 2021, respectively. The PAETR was lower than the US federal statutory rate of 21.0% primarily due to the impact of maintaining a US valuation allowance provided on US deferred tax assets.

The Company continues to maintain a full valuation allowance on US federal and state net deferred tax assets (excluding the tax effects of deferred tax liabilities associated with indefinite lived intangibles) for the period ending March 31, 2021 as a result of pretax losses incurred since the Company's inception in early 2012. The Company is projecting pre-tax loss in 2021.

Current and Prior Period Tax Expense

For the three months ended March 31, 2020 and 2021, the Company recognized income tax expense of $11 and $17 on pretax losses of $2,222 and $13,455, respectively.

7.Convertible Preferred Stock

Convertible preferred stock is comprised of the following as of December 31, 2020 and March 31, 2021:

	Shares						
Series	Authorized	Outstanding	Per share price at issuance	Aggregate liquidation preference	Funds received	Fees incurred	Carrying value of convertible preferred stock
A	3,865	3,865	$0.85	$3,300	$3,300	$52	$3,248
B	6,298	6,298	2.38	15,000	15,000	60	14,940
C	2,948	2,948	6.78	20,000	20,000	112	19,888
D	3,154	3,154	14.27	45,000	45,000	146	44,853
E	1,224	1,224	20.43	25,000	25,000	92	24,909
F	758	758	39.57	30,000	30,000	153	29,848
G	241	241	41.38	10,000	10,000	24	9,976
H	586	586	59.77	35,000	35,000	52	34,947
	19,074	19,074		$183,300	$183,300	$691	$182,609

Each share of convertible preferred stock has a liquidation preference over common stock equal to the original issue price of the preferred stock plus any declared but unpaid dividends. No single class of preferred stock has liquidation preference that is senior in payment to other classes of preferred stock. The preferred stock does not accumulate undeclared and unpaid dividends.

Each share of convertible preferred stock is convertible into shares of common stock at the option of the stockholder based upon a conversion rate that is 1:1 and may be adjusted under certain circumstances as defined in the Company's Amended and Restated Certificate of Incorporation. If the Company consummates a public offering from which the Company receives gross proceeds of at least $50,000, the conversion becomes mandatory for the convertible preferred stockholders. Also, the conversion becomes mandatory for a preferred stock class, if the holders of at least 65% of the then outstanding shares of preferred stock elect to convert. The Company has reserved an equal number of shares of common stock for the potential conversion of each series of convertible preferred stock. The convertible preferred stockholders have voting rights equal to common stockholders. The preferred stockholders are entitled to the number of votes equal to the number of shares of common stock into which the preferred shares could be converted.

All classes of convertible preferred stock are being classified as outside of stockholders' deficit as the preferred stock has redemption features that are outside of the Company's control upon certain triggering events, such as a "Deemed Liquidation Event." In the case of a Deemed Liquidation Event, the holders of Preferred Stock are entitled to be paid out of the assets of the Company, prior and in preference to any distribution to the holders of the common stock. Because the Company's common stockholders do not control the Company's Board of Directors, a potential Deemed Liquidation Event is considered to be outside of the control of the Company, resulting in classification outside of stockholders' deficit.

8.Stock-based Compensation

The Company has a stock incentive plan whereby the Board of Directors may grant stock options or restricted stock units to employees, directors and consultants to purchase shares of the Company's common stock under the 2011 Equity Incentive Plan (Plan). The Company has authorized 10,113 common shares to be issued under the Plan. The Plan permits the granting of incentive stock options and nonqualified stock options. The Company's stock options vest based on terms in the stock option agreements and generally vest over four years and have a term of ten years subject to the continuous service to the Company by the optionee. Incentive stock options may be granted at an exercise price of not less than 100% of the estimated fair value of the stock at the date of the grant as determined by the Company's Board of Directors. If incentive stock options are granted to a stockholder who owns more than 10% of the voting power of all classes of stock of the Company, the exercise price of the incentive stock options must be at least 110% of the estimated fair value of the common stock at the date of the grant.

In November of 2020, the Board approved the amended and restated Plan, which provides for, among other things, the ability of the Company to grant restricted stock units (RSUs). Each RSU award vests based upon the satisfaction, during the term of the RSUs, of two requirements: length of service and a liquidity event defined as a change in control or a qualified IPO. No compensation expense has been included for RSUs as the vesting conditions are not probable.

Stock option activity for the three months ended March 31, 2021 is set forth below:

	Number of options	Weighted-averageexerciseprice	Weighted- average remaining contractual life (years)	Aggregate intrinsic value
Options outstanding at January 1, 2021	8,365	$10.68	7.47	$230,596
Granted	0	—		
Exercised	(347)	5.85		
Repurchased	(220)	4.81		
Forfeited and expired	(26)	14.14		
Options outstanding at March 31, 2021	7,772	$11.05	7.35	$324,453
Options exercisable at March 31, 2021	4,134	6.52	6.15	$191,298

There were no options granted during the three months ended March 31, 2021. The total intrinsic value of options exercised was approximately $13,714 during the three months ended March 31, 2021. There were 715 options available for grant at March 31, 2021.

RSU activity for the three months ended March 31, 2021 is set forth below:

	Share units	Weighted-averagegrant date fair value per share
Outstanding at January 1, 2021	34	$38.08
Granted	8	38.08
Vested	—	—
Forfeited	—	—
Outstanding at March 31, 2021	42	$38.08

As of March 31, 2021, there was approximately $25,240 of unrecognized compensation cost related to stock options granted under the plan. That cost is expected to be recognized over a weighted-average period of approximately two years. The amount of unrecognized compensation expense for RSUs as of March 31, 2021 was $1,596 with a weighted-average remaining contractual life of approximately three years, for a total unrecognized compensation expense of $26,836.

In February of 2021, the Company initiated a tender offer which allowed employees to sell up to 10% of their vested options or shares back to the Company at selling price of $59.77, which was above fair market value of $38.08. The Company paid $13,479 and incurred $5,275 of additional compensation expense related to this tender representing the difference between the aggregate selling price and fair market value of the options and shares sold, and a $7,335 increase to Additional paid-in capital. As a result of this tender, 220 options were put back into the option pool and 23 shares were retired with an $868 increase to Additional paid-in capital.

Compensation expense is recognized over the service period, which approximates the vesting period. Total compensation expense was $1,154 and $2,551 for the three months ended March 31, 2020 and 2021, respectively.

Stock based compensation expense is included in the unaudited condensed consolidated statement of operations as shown in the following table:

	Three Months Ended March 31,	
	2020	2021
Cost of Revenue	$1	$2
Research and development	447	1,111
Sales and marketing	73	68
General and administrative	633	1,370
Total	$1,154	$2,551

Nominal amounts of stock based compensation expense is capitalized into capitalized software.

9.Commitments and Contingencies

Legal Proceedings - From time to time, the Company may become involved in various legal proceedings in the ordinary course of its business and may be subject to third-party infringement claims.

Sales and use and value-added tax (VAT) - The Company determined that it was required to pay sales and use and VAT taxes in various jurisdictions. The Company is in the process of filing voluntary disclosure agreements with certain jurisdictions and remitting the estimated taxes. If these jurisdictions determine that additional amounts are necessary, the Company will be required to pay accordingly.

Related Parties - The Company has determined that there were no transactions with related parties as of or during the three months ended March 31, 2020 and 2021.

10.Accrued Expenses and Other Liabilities

Accrued expenses and other liabilities consisted of the following:

	December 31, 2020	March 31, 2021
Contributor awards	$—	$5,098
Sales and VAT tax accrual	2,301	3,182
Marketing related accruals	1,513	1,757
Obligations under current leases	1,111	979
Employee related benefits	889	514
Other	2,820	3,426
Total	$8,634	$14,956

11.Employee Benefit Plan

The Company sponsors a profit sharing plan with a 401(k) feature, the Duolingo Retirement Plan, (the “Plan”) for eligible employees. The current Plan, effective January 1, 2021, provides for Company safe harbor matching contributions of 100% of the first 4% of the employees’ elective deferrals and 50% of the next 2%, with vesting starting upon the first day of employment. The prior year Plan provided for Company safe harbor matching contributions of 100% of the first 3% of the employees’ elective deferrals and 50% of the next 2%, with vesting starting upon the first day of employment. The Company also has the option to make discretionary matching or profit sharing contributions. The Company made safe harbor matching contributions of approximately $341 and $702 during the three months ended March 31, 2020 and 2021, respectively. The Company did not make any discretionary matching or profit sharing contributions during the three months ended March 31, 2020 or 2021.

12.Earnings Per Share

Basic and diluted net loss per share attributable to common stockholders is presented in conformity with the two-class method required for participating securities. The Company considers all series of the convertible preferred stock to be participating securities. Under the two-class method, the net loss attributable to common stockholders is not allocated to the convertible preferred stock as the holders of the convertible preferred stock do not have a contractual obligation to share in the Company’s losses. Basic net loss per share attributable to common stockholders is computed by dividing the net loss by the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase. The diluted net loss per share attributable to common stockholders is computed by giving effect to all potential dilutive common stock equivalents outstanding for the period. For purposes of this calculation, the convertible preferred stock are considered to be potential common stock equivalents but have been excluded from the calculation of diluted net loss per share attributable to common stockholders as their effect is anti-dilutive.

	Three Months Ended March 31,	
(In thousands, except per share data)	2020	2021
Numerator:		
Net loss	$(2,233)	$(13,472)

Denominator:		
Weighted-average shares used in computing net loss per share attributable to common stockholders, basic and diluted	12,403	12,916
Basic and diluted loss per common share	$(0.18)	$(1.04)

Since the Company was in a net loss position for the three months ended March 31, 2020 and 2021, there is no difference between the number of shares used to calculate basic and diluted loss per share. The potential shares of common stock that were excluded from the computation of diluted net loss per share attributable to common stockholders for the period presented because including them would have been antidilutive are as follows:

	Number of shares	
	March 31,	
	2020	2021
Convertible preferred stock	18,247	19,074
Stock options	3,451	4,136
Total	21,698	23,210

13.Subsequent Events

Subsequent events were evaluated through June 7, 2021, the date that these unaudited condensed consolidated financial statements were available to be issued.

Through and including , 2021 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to the dealers' obligation to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

Part II

Information Not Required in Prospectus

Item 13. Other Expenses of Issuance and Distribution.

The following table sets forth the costs and expenses, other than the underwriting discounts and commissions, payable by us, in connection with the sale of our Class A common stock being registered. All amounts are estimates except for the Securities and Exchange Commission (SEC) registration fee, the Financial Industry Regulatory Authority (FINRA) filing fee, and the Nasdaq Global Select Market listing fee.

SEC registration fee	$10,910
FINRA filing fee	15,500
Nasdaq Global Select Market listing fee	*
Printing fees and expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous fees and expenses	*
Total	$*

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*To be provided by amendment.

Item 14. Indemnification of Directors and Officers.

We expect to adopt an amended and restated certificate of incorporation, which will become effective immediately prior to the completion of this offering and will contain provisions authorized by the General Corporation Law of the State of Delaware (the Delaware General Corporation Law) that limit the personal liability of our directors for monetary damages to the fullest extent permitted by Delaware law. Consequently, our directors will not be personally liable to us or our stockholders for monetary damages for breach of fiduciary duty as directors, except liability for the following:

•any breach of the director's duty of loyalty to our company or our stockholders;

•any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

•unlawful payments of dividends or unlawful stock repurchases or redemptions in violation of Delaware law; or •any transaction from which the director derived an improper personal benefit.

Any amendment to, or repeal of, these provisions will not eliminate or reduce the effect of these provisions in respect of any act, omission, or claim that occurred or arose prior to that amendment or repeal. If the Delaware General Corporation Law is amended to provide for further limitations on the personal liability of directors of corporations, then the personal liability of our directors will be further limited to the greatest extent

permitted by the Delaware General Corporation Law.

Section 145 of the Delaware General Corporation Law, among other things, grants a Delaware corporation the power to, and authorizes a court to award, indemnification and advancement of expenses to officers, directors, and other corporate agents.

We expect to adopt amended and restated bylaws, which will become effective immediately prior to the completion of this offering and will provide that we will indemnify, to the fullest extent permitted by law, any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director or officer of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws are expected to provide that we may indemnify to the fullest extent permitted by law any person who is or was a party or is threatened to be made a party to any action, suit, or proceeding by reason of the fact that he or she is or was one of our employees or agents or is or was serving at our request as an employee or agent of another corporation, partnership, joint venture, trust, or other enterprise. Our amended and restated bylaws will also provide that we must advance expenses incurred by or on behalf of a director or officer in advance of the final disposition of any action or proceeding, subject to very limited exceptions.

In addition, the Delaware General Corporation Law provides that to the extent a present or former director or officer of the corporation has been successful on the merits or otherwise in defense of any generally indemnifiable action, suit, or proceeding, that such person shall be indemnified by the corporation against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with such action, suit, or proceeding. For any acts or omissions occurring after December 31, 2020, the officers referenced in the immediately preceding sentence could be more limited as a matter of Delaware law.

Further, we have entered into or intend to enter into indemnification agreements with each of our directors and executive officers. Subject to certain limitations, these indemnification agreements will require us, among other things, to indemnify such directors and executive officers for certain expenses and against certain liabilities including, among other things, attorneys' fees, judgments, fines, and settlement amounts actually and reasonably paid or incurred by such director or officer in any action, suit, or proceeding arising out of their services as a director or officer or any other company or enterprise to which the person provides services at our request. Subject to certain exceptions, these indemnification agreements will also require us to advance certain expenses (including attorneys' fees and disbursements) actually and reasonably paid or incurred by the directors and executive officers in advance of the final disposition of the action, suit, or proceeding. We believe that these indemnification agreements are necessary to attract and retain qualified individuals to serve as directors and executive officers.

The limitation of liability and indemnification provisions that are expected to be included, or are included, in our amended and restated certificate of incorporation, amended and restated bylaws, and in indemnification agreements that we enter into with our directors and executive officers may discourage stockholders from bringing a lawsuit against our directors and executive officers for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against our directors and executive officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be harmed to the extent that we pay the costs of settlement and damage awards against directors and executive officers as required by these indemnification provisions. At present, we are not aware of any pending litigation or proceeding involving any person who is or was one of our directors, officers, employees, or other agents or is or was serving at our request as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, or other enterprise, for which indemnification is sought, and we are not aware of any threatened litigation that may result in claims for indemnification.

We expect to obtain insurance policies under which, subject to the limitations of the policies, coverage is provided to our directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to us with respect to payments that may be made by us to these directors and executive officers pursuant to our indemnification obligations or otherwise as a matter of law.

Certain of our non-employee directors may, through their relationships with their employers, be insured and/or indemnified against certain liabilities incurred in their capacity as members of our board of directors.

The form of underwriting agreement for this initial public offering provides for indemnification by the underwriters of us and our officers and directors who sign this registration statement for specified liabilities, including matters arising under the Securities Act of 1933, as amended (the "Securities Act").

Item 15. Recent Sales of Unregistered Securities.

The following list sets forth information as to all securities we have sold since January 1, 2018, which were not registered under the Securities Act.

(1)In November 2020, we issued an aggregate of 585,623 shares of our Series H convertible preferred stock to two accredited investors, at a price per share of $59.7653, for gross proceeds of approximately $35.0 million.

(2)In April 2020, we issued an aggregate of 241,658 shares of our Series G convertible preferred stock to one accredited investor, at a price per share of $41.3807, for gross proceeds of approximately $10.0 million.

(3)In November 2019, we issued an aggregate of 758,146 shares of our Series F convertible preferred stock to one accredited investor, at a price per share of $39.5702, for gross proceeds of approximately $30.0 million.

(4)We granted to our directors, employees, consultants, and other service providers options to purchase an aggregate of 5,436,303 shares of our common stock under our 2011 Equity Incentive Plan (2011 Plan), at exercise prices ranging from $7.11 to $52.80 per share.

(5)We granted to our directors, employees, consultants, and other service providers restricted stock units representing an aggregate of 594,705 shares of our common stock, under our 2011 Plan.

(6)We issued and sold to our employees, consultants, and other service providers an aggregate of 3,227,266 shares of our common stock upon the exercise of stock options under our 2011 Plan, for a weighted-average exercise price of $8.74 and aggregate consideration of approximately $9.5 million.

We claimed exemption from registration under the Securities Act for the sale and issuance of securities in the transactions described in paragraphs (1) through (3) by virtue of Section 4(a)(2) and/or Regulation D promulgated thereunder as transactions not involving any public offering. All of the purchasers of unregistered securities for which we relied on Section 4(a)(2) and/or Regulation D represented that they were accredited investors as defined under the Securities Act. We claimed such exemption on the basis that (a) the purchasers in each case represented that they intended to acquire the securities for investment only and not with a view to the distribution thereof and that they either received adequate information about the registrant or had access, through employment or other relationships, to such information and (b) appropriate legends were affixed to the stock certificates issued in such transactions.

We claimed exemption from registration under the Securities Act for the sales and issuances of securities in the transactions described in paragraphs (4)-(6) above under Section 4(a)(2) of the Securities Act in that such sales and issuances did not involve a public offering or under Rule 701 promulgated under the Securities Act, in that they were offered and sold either pursuant to written compensatory plans or pursuant to a written contract relating to compensation, as provided by Rule 701.

Item 16. Exhibits and Financial Statement Schedules.

(a) Exhibits.

Exhibit Number	Exhibit Description
1.1*	Form of Underwriting Agreement
3.1*	Amended and Restated Certificate of Incorporation, as currently in effect
3.2*	Form of Amended and Restated Certificate of Incorporation, to be in effect immediately prior to the completion of this offering
3.3	Bylaws, as currently in effect
3.4*	Form of Amended and Restated Bylaws, to be in effect immediately prior to the completion of this offering
4.1*	Reference is made to Exhibits 3.1 through 3.4
4.2	Form of Class A Common Stock Certificate
4.3	Amended and Restated Investors' Rights Agreement, dated November 6, 2020, by and among the Registrant and the investors listed therein
5.1*	Opinion of Latham & Watkins LLP
10.1(a)	Office Lease Agreement, dated November 18,2015, by and between Alpha 4, L.P. and the Registrant
10.1(b)	Amendment to Office Lease Agreement, dated June 16, 2016, by and between Alpha 4, L.P. and the Registrant
10.1(c)	Second Amendment to Office Lease Agreement, dated October 16, 2017, by and between Alpha 4, L.P. and the Registrant
10.1(d)	Third Amendment to Office Lease Agreement, dated December 31, 2017, by and between Alpha 4, L.P. and the Registrant
10.1(e)	Fourth Amendment to Office Lease Agreement, dated August 10, 2018, by and between Alpha 4, L.P. and the Registrant
10.1(f)	Fifth Amendment to Office Lease Agreement, dated October 22, 2018, by and between Alpha 4, L.P. and the Registrant
10.1(g)	Sixth Amendment to Office Lease Agreement, dated November 8, 2019, by and between Alpha 4, L.P. and the Registrant
10.2(a)#	2011 Equity Incentive Plan, as amended
10.2(b)#	Form of Stock Option Grant Notice and Stock Option Agreement under 2011 Equity Incentive Plan, as amended
10.2(c)#	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement under 2011 Equity Incentive Plan, as amended
10.3(a)#*	2021 Incentive Award Plan
10.3(b)#*	Form of Stock Option Grant Notice and Stock Option Agreement under the 2021 Incentive Award Plan
10.3(c)#*	Form of Restricted Stock Award Grant Notice and Restricted Stock Award Agreement under the 2021 Incentive Award Plan
10.3(d)#*	Form of Restricted Stock Unit Award Grant Notice and Restricted Stock Unit Award Agreement under the 2021 Incentive Award Plan
10.4#*	Employee Stock Purchase Plan
10.5#*	Employment Agreement by and between the Registrant and Luis von Ahn
10.6#*	Employment Agreement by and between the Registrant and Severin Hacker
10.7#*	Employment Agreement by and between the Registrant and Matthew Skaruppa
10.8#*	Employment Agreement by and between the Registrant and Robert Meese
10.9#*	Employment Agreement by and between the Registrant and Natalie Glance
10.10#*	Employment Agreement by and between the Registrant and Stephen Chen
10.11#*	Non-Employee Director Compensation Program

10.12#*	Form of Indemnification Agreement for Directors and Officers
10.13*	Form of Exchange Agreement by and among the Registrant and the stockholders listed therein
21.1	List of Subsidiaries
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm
23.2*	Consent of Latham & Watkins LLP (included in Exhibit 5.1)
24.1	Power of Attorney (reference is made to the signature page to the Registration Statement)

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*To be filed by amendment.

# Indicates management contract or compensatory plan.

(b) Financial Statement Schedules.

A financial statement schedule is included in the consolidated financial statements, which form part of this registration statement, and is incorporated herein by reference.

Item 17. Undertakings.

(a)Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(b)The undersigned Registrant hereby undertakes that:

(1)For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2)For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Power of Attorney (reference is made to the signature page to the Registration Statement)

Signatures

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Pittsburgh, Pennsylvania on June 28, 2021.

DUOLINGO, INC.	
By:	/s/ Luis von Ahn
	Luis von Ahn
	President and Chief Executive Officer

Power of Attorney

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Luis von Ahn and Matthew Skaruppa, and each of them, as his or her true and lawful attorneys-in-fact and agents, each with the full power of substitution and resubstitution, for him or her and in his or her name, place, or stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments), and to sign any registration statement for the same offering covered by this registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their, his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Luis von Ahn		
Luis von Ahn	Chief Executive Officer and Director (Principal Executive Officer)	June 28, 2021
/s/ Matthew Skaruppa		
Matthew Skaruppa	Chief Financial Officer (Principal Financial and Accounting Officer)	June 28, 2021
/s/ Amy Bohutinsky		
Amy Bohutinsky	Director	June 28, 2021
/s/ Sara Clemens		
Sara Clemens	Director	June 28, 2021
/s/ Bing Gordon		
Bing Gordon	Director	June 28, 2021
/s/ Severin Hacker		
Severin Hacker	Chief Technology Officer and Director	June 28, 2021
/s/ Gillian Munson		
Gillian Munson	Director	June 28, 2021
/s/ Jim Shelton		
Jim Shelton	Director	June 28, 2021
/s/ Laela Sturdy		
Laela Sturdy	Director	June 28, 2021